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IDENTIFIERS *Kentucky State Department of Education

ABSTRACT

This document is a compilation of handouts, guidelines, position papers, statements of principles, development charts, and other materials used at a conference focused on issues relating to the implementation of an ungraded primary block at the elementary level. Topics included the relation of learning environment to students, teachers, parents; assessment of students; organizational issues, including a comparison between conventional graded and nongraded systems; curriculum development, particularly in relation to learning styles; and research on various student populations. Topics related to instruction included cooperative learning, evaluation of students, the multiability classroom, and assessment of student reading and writing progress in whole language programs. Teacher education and training and classroom management were also part of the agenda. Samples of tools for assessing students' skills, a day planner, reprints of articles on instructional approaches, and resource materials are included. (BC)

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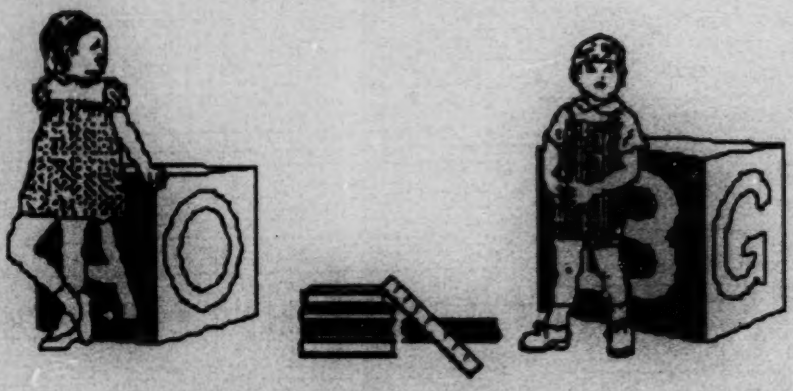
ED330451

The Primary School Institute

Executive Inn
Executive West
Louisville, Kentucky
October 22–24, 1990



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PS 019460

Day One

8:00 - 10:00 A.M.

OPENING SESSION
Mary Ballroom, Executive West

Keynote Address: Dr. Robert Anderson
Coauthor of The Non-Graded Elementary School

10:00 A.M. - NOON

Strands I through V

Note: All sessions run concurrently. Team members attend assigned strands. (Shuttle service at Main Lobby entrance of each hotel.)

10:00- Noon		1:30–3:30
AM1	**Strand I** Lion Room, Exec. West Getting Started - Ms. Marlene Dergousoff Assisted by: Winford Allen, Charlene Bush, Linda Keller, Faye King and Max Workman	PM1
AM2	**Strand II** King/William Room, Exec.West Organizational Issues - Dr. Robert Anderson Assisted by: Phyllis Hall and Dr. Marium Williams	PM2
AM3	**Strand III** Loch/Heather Room, Exec.West Curriculum (Content and Process) - Dr. Kathy Thornburg Assisted by: Cathy Calwell and Dr. Mary Ann Farley	PM3
AM 4	**Strand IV** Empire Room, Exec. East Instruction - Dr. Charles Rathbone Assisted by: Brenda Lawrence and Elizabeth Rightmyer	PM4
AM5	**Strand V** Canterbury Room, Exec. East Managing Instruction in the Primary School Moderators: Dr. Phyllis Oakes or Dr. Judy Harris Panelists: Janet Berry, Kathy Kopt, Kathy Marshall, and Hazel Tribble	PM5
3:30 - 5:00	**Strand VI** Canterbury Room, Exec. East Teacher Training Issues - Dr. Ann Mitchell and Dr. Anne Brautigam	Open to all participants
3:30 - 6:30	**Pre-registration for Model Program Presentations** - Ballroom Coatroom, Exec. West	

Day Two

Additional Model Program Presentations
8:00 – 8:50 A.M.
9:00 – 9:50 A.M.
10:00 – 10:50 A.M.

Exec. West	Model
Paisley Room	**12. Box It and Bag It/Success Reading and Writing** Consultants: Debbie Head and Libby Pollett
Shannon Room	**13. Classroom Organization and Management Program** Consultant: Dr. Alene Harris
Ruskin Room	**14. Hands-On Elementary Science** Consultant: Brad Yohe
Aberdeen Room	**15. Kentucky Activity Centered Elementary Science** Consultant: Dr. Stephen Henderson
Gaelic Room	**16. Miquon Math Lab Materials** Consultant: Maureen McAvinue
Poolside Room	**17. Problem Solving with Manipulatives for Elementary Teachers** Consultants: Cheryl Chedester and Vicki Lewis
Drinkwater Room	**18. Project Climb (Integrating Reading, Writing, Math Across the Curriculum)** Consultant: Helene Goodwin
Bagpipe Room	**19. (STAMM) Systematic Teaching and Measuring Mathematics** Consultant : Dean Bernard
Tweed Room	**20. Writing to Read/Writing to Write/Apple Early Learning** Consultant: Michael Bidwell

District Team Planning

1:00 – 3:00 P.M.

Executive East and West

Facilitators will meet with district teams to begin the Primary School planning process. Consult the information sheet in your Institute materials packet for the location of your team meeting.

Institute Overview

Day One* Mon., Oct. 22, 1990	Day Two* Tues., Oct. 23, 1990
8–10 A.M. Opening and Keynote Address	8–11 A.M. Model Programs run concurrently
10–Noon Strands I to V run concurently	1–3 P.M. Teams meet to share information and begin planning
1:30–3:30 P.M. Strands I to V repeated	
3:30–5 P.M. Strand VI	Institute concludes for the West

Day One** Tues., Oct. 23, 1990	Day Two** Wed., Oct. 24, 1990
Monday's schedule is repeated for the teams from the Eastern portion of Kentucky	Tuesday's schedule (see above) is repeated for the teams from the Eastern portion of Kentucky
	Institute concludes for the East

* Teams from the Western half of Kentucky attend on October 22-23.
** Teams from the Eastern half of Kentucky attend on October 23-24.

All team members will not attend every strand. Team representatives will be assigned to strands and are responsible for sharing the information with teammates. Participants will receive a set of handouts for all strands and models.

Registration - Executive West

Instructional Leadership Hours
Sign Up In Registration Area

Information - Table in lobby of each hotel.

Food Service in addition to regular hotel services:

Continental Breakfast *
Derbyshire Dining Room, Executive West
Poolside Lobby, Executive East

Lunch *
Poolside, Executive West
Empire Room, Executive East

*All Meals on Cash Basis

Day Two

Model Program Presentations
8:00 – 8:50 A.M.
9:00 – 9:50 A.M.
10:00 – 10:50 A.M.

Note: All programs will be presented during each time period. Team members should coordinate to allow attendance at the maximum number of sessions with minimum travel between hotels. (Shuttle service at Main Lobby entrance of each hotel.)

Exec. East	Model
Spanish Room	1. **Cooperative Integrated Reading and Composition (CIRC)** Consultant: Robyn Fitzsimmons
Label Room	2. **Cooperative Learning Models** Consultant: Nancy Whitlock
New Orleans/ Terrace Room	3. **COPE/Kinder Math/Kinder Say** Consultant: Mary Alice Felleisen
Crown Room	4. **Early Prevention of Failure** Consultants: Betty Hallmark and Ellen Lassiter
Yorkshire Room	5. **Exemplary Center for Reading Instruction/ Keyboarding Reading and Spelling** Consultant: Madeleine Ritchie
Windsor Room	6. **High Scope Primary Curriculum** Consultants: Charles Hohmann and Jane Ellen Meyers
Patio Room	7. **Kids Interest Discovery Studies (Kids Kits)** Consultants: Frances Catlett and Barbie Haynes
Cleo Room	8. **KITE (combines Astra's Magic Math and Alpha Phonics)** Consultant: Cheryl Dykes Smith
Whitehart Room	9. **Interdependent Learning Model (ILM)** Consultant: Harold Freeman
P.U.B. Room	10. **Positive Attitude Toward Learning** Consultant: Dr. Reginald High
Red Garter Room	11. **Success UnderstandingMathematics (SUM)** Consultant: Joanne Greaver

The Primary Program

Presentation by: **Marlene Dergousoff**
Co-ordinator
Primary Program
(604) 356-7541

Ministry of Education
Province of British Columbia

Primary Program

Getting Started - A Perspective from One Province

Where did we begin?

- *Sullivan Royal Commission on Education*
  - *Mission Statement*
  - *Goals*
  - *Educated Citizen*
  - *Principles of Learning*
- *Year 2,000*
  - *A Framework for Learning*

What Process was used?

- *Draft Document (Primary Program)*
- *Responses to the Draft Document*
- *Primary Program - revision*
- *Supports to the Parent Program*
- *Implementation*
  - *Timelines*
  - *Process*
  - *Opportunities - revision*
    - *parents*

What are the Key Components? (Main Issues)

- *Philosophy*
- *Rationale*
- *Goals*
- *Position Statements*

- *Assessment and Evaluation*

- *Curriculum*

- *Resources*

Is the Program alive and well?

Program Evaulation

Program Standards

Questions to ask:

Philosophy of the Primary Program

The Primary Program nurtures the continuing growth of children's knowledge and understanding of themselves and their world. It provides a safe, caring, stimulating environment where learning flourishes.

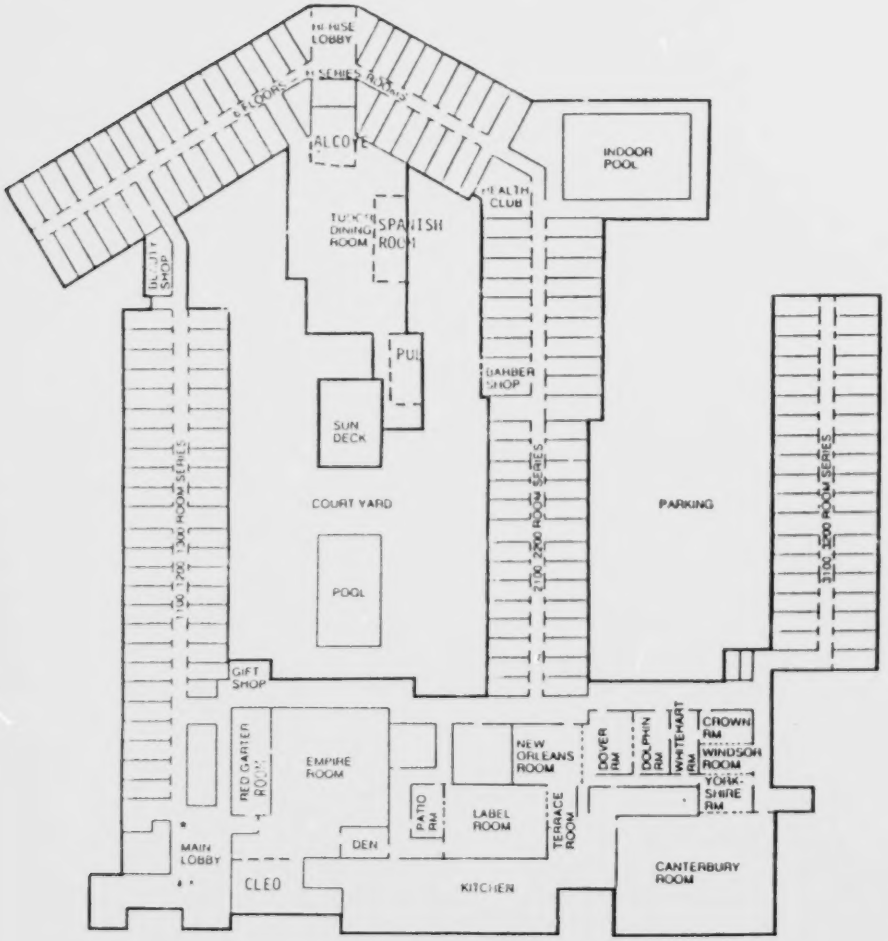
The Program recognizes that children are individuals and every child is unique. The Program accommodates the broad range of children's needs, their learning rates and styles, and their knowledge, experiences and interests to facilitate continuous learning. It achieves this through an integrated curriculum incorporating a variety of instructional models, strategies and resources.

The Program honours the development of the whole child. It reflects an understanding that children learn through active involvement and play and that children represent their knowledge in a variety of ways. It recognizes the social nature of learning and the essential role of language in mediating thought, communication and learning.

The Program views assessment and evaluation as integral components of the teaching-learning process. Assessment and evaluation support the child's learning; they assist the teacher in making appropriate educational decisions.

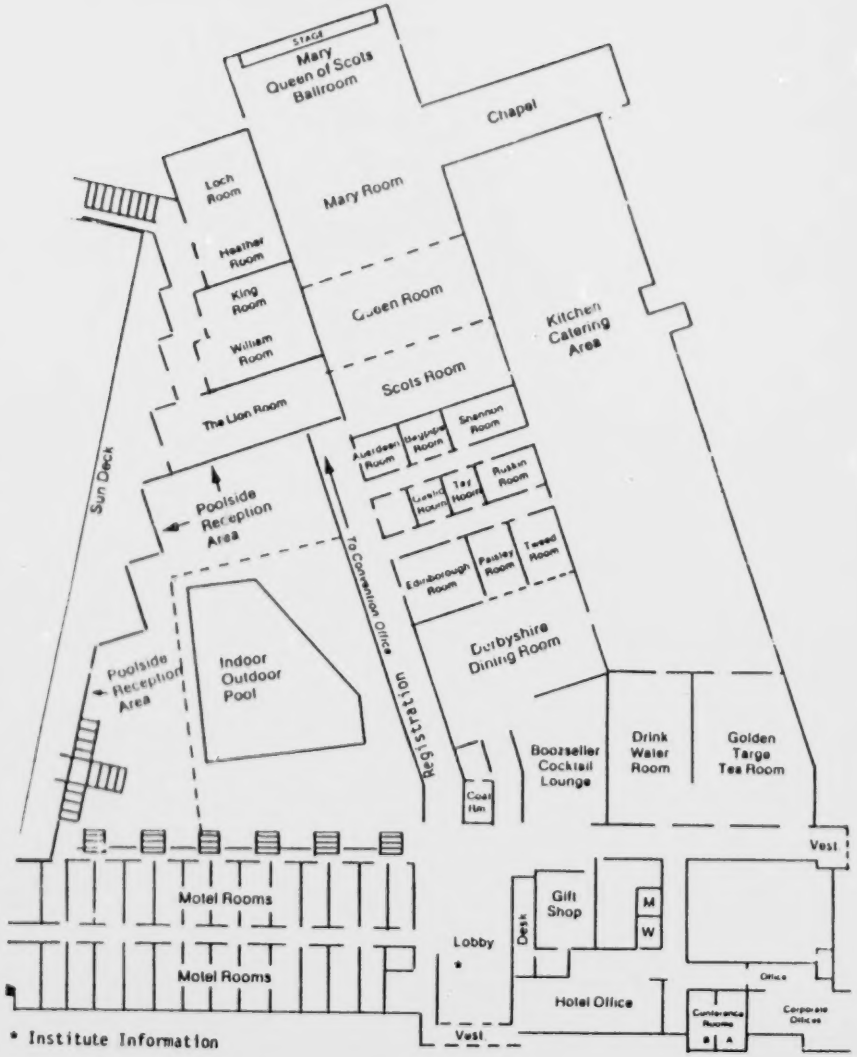
The Program values teachers and parents as partners in the child's education. Teachers and parents consult and collaborate to create for the child a climate of respect, success and joy necessary for lifelong learning.

EXECUTIVE EAST



* Institute Information

EXECUTIVE WEST



* Institute Information

Rationale

The Rationale sets out the principles that support the Primary Program philosophy. It identifies fundamental characteristics of an enabling environment appropriate for young children and outlines key aspects of curriculum, assessment and evaluation. It affirms the role of teachers and parents in creating an optimum learning environment.

It affirms the role of teachers and parents in creating an optimum learning environment.

The Child and the Learning Environment

Children are unique individuals. They develop and learn at different rates, in different ways.

> *The learning environment helps develop individual potential. It respects and values differences in children, building upon individual differences rather than stressing conformity. It provides opportunities for continuous learning without such structures as grade levels and fixed ability-grouping or procedures of retention and promotion. It allows for the fact that learning occurs in different areas at different times, in different ways. Children are assessed and evaluated, in terms of their achievements, not by comparison to group norms. It encourages children to improve their performance and realize their potential rather than compete with others.*

Children are aesthetic and artistic beings. They learn through sensory experiences; they express and represent their thoughts and feelings through a variety of media and forms.

The learning environment provides time and opportunities for children to experience and respond to their world through their senses, and to create and express themselves in a variety of ways.

Children are emotional and social beings with unique personalities. They learn best when they feel secure and valued. When they are accepted and appreciated, they are free to take risks, to make mistakes and to learn from their errors and successes. Children develop and refine their thinking as they interact and communicate with other children and adults.

The learning environment is social in nature, providing a psychologically safe, secure and stimulating climate for all children. It provides time and opportunities for children to take appropriate risks, explore and investigate their world. It offers children experiences which encourage them to interact with others, to develop interpersonal skills, and to work and learn cooperatively and collaboratively.

Children are intellectual beings. They are curious and enthusiastic learners,

Children learn best when they feel secure and valued.

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who want to know about the world around them. As children experience their world directly, they experiment, make discoveries, and form hypotheses. They use language to clarify and extend their thinking and to communicate with others. Intellectual development is a process of acquiring, structuring and restructuring knowledge. This intellectual development encompasses the attitudes, skills and knowledge described in the Humanities, Sciences, Practical Arts and Fine Arts curricula.

Children are curious and enthusiastic learners, who want to know about the world around them.

The learning environment is experience-rich, providing time and opportunities for first-hand experiences. It facilitates the development of thinking processes through engaging children in activities that stem from their natural curiosity and wonder. Children are invited to explore and represent their thinking in a variety of forms. The environment is rich with language and literacy experiences, providing time and opportunities for children to communicate with other children and adults, to be immersed in oral and written language, and to become literate in purposeful, meaningful ways.

Children are physical beings, who are to varying degrees physically active and energetic. For children, learning involves whole-body activities, active participation and play. They need experiences that extend their ability to lead safe, active, healthy lives.

The learning environment provides time, space and opportunities for movement, for manipulation of objects, and for acquiring attitudes, skills and knowledge of safe and healthful living.

Children are becoming socially responsible, caring beings. They have unique cultural experiences and a developing interest in learning about their immediate and global environments.

The learning environment fosters an accepting, tolerant and flexible attitude towards others and a respect for the natural world. It provides time and opportunities for children to participate in a variety of multicultural and environmental activities. It helps children move beyond the personal level toward an awareness and appreciation of social, ethical and environmental is-

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sues, and it helps them contribute cooperatively to positive action.

The Teacher and the Learning Environment

The role of the teacher is to facilitate learning.

The teacher:

- relates to all children with warmth sensitivity and caring to establish and sustain a climate in which learning is joyful;
- invites the children to participate in planning and creating a rich, stimulating environment which encourages interaction, exploration and investigation;
- provides encouragement, support and challenge, as appropriate, to help the child develop personal goals;
- collaborates with other professionals and the children to plan, create and sustain a safe climate in which children may work harmoniously, creatively and productively;
- draws upon a variety of organizational patterns to make optimal use of space, and to integrate a variety of materials and equipment that stimulate active learning;
- provides time, opportunity and a range of different experiences to stimulate children to interact, reflect, communicate and learn;
- structures opportunities for children to work individually and with other children; with their teacher and with other adults; in groups of different sizes and composition, formed for different purposes;
- focuses on the ongoing learning of individual children, and on developmentally appropriate assessment and evaluation;
- uses the information gained through assessment and evaluation to make thoughtful, informed and tactful interventions as required;
- exchanges information about the child with the child and parents on an ongoing basis;

What is the Teacher?

What is the teacher?
A guide, not a guard.
What is learning?
A journey, not a destination.
What is discovery?
Questioning the answers, not answering the questions.
What is the process?
Discovering ideas, not covering content.
What is the goal?
Open minds, not closed issues.
What is the test?
Being and becoming, not remembering and reviewing.
What is the school?
Whatever we choose to make it.

Alan A. Glatthorn

- models and demonstrates enthusiasm for learning, and helps children to enjoy learning as meaningful, relevant and personally satisfying.

The Curriculum and the Learning Environment

The curriculum fosters the development of the child and promotes learning.

The curriculum:

The curriculum is free of rigid structures such as fixed ability-groupings, grade levels (K,1,2,3), retention, and promotion, that impede continuous learning.

- begins from where the child is, and builds on the child's interests and natural sense of wonder;
- is worth learning, is comprehensible, and is engaging; is appropriate to the child's particular stage of development;

- engages the child in meaningful activities and experiences which provide a context for the development of thinking processes;
- builds on, extends and enhances successful experiences;
- invites children to co-operate and collaborate with each other;
- is integrated wherever possible;
- is free of rigid structures such as fixed ability-groupings, grade levels (K,1,2,3), retention, and promotion, that impede continuous learning;

- provides a balance of activities and experiences that reflect the five goal areas;
- develops the attitudes, skills, and knowledge of the Fine Arts, Humanities, Practical Arts and Sciences ;
- allows for the inclusion of locally developed programs;
- includes a global educational focus in which social, ethical and environmental issues are presented.

Assessment and Evaluation and the Learning Environment

Assessment and evaluation foster the development of the child and promote learning.

Assessment and evaluation:

- focus on each child individually;
- emphasize what each child can do;
- identify a child's learning needs to facilitate continuous learning;
- are based on authentic evidence and appropriate practices;
- include a range and variety of strategies and resources to suit the child and the purpose of the learning activity;
- are an integral part of the teaching-learning process, but do not dominate or fragment learning;
- are based on the curriculum;
- acknowledge the whole child, by focusing in a balanced way on all five goal areas;
- enable learners.

Assessment and evaluation are an integral part of the teaching-learning process, but do not dominate or fragment learning.

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Parents and the Learning Environment

Parents are the child's first and most important teacher.

Parents are invited to:

- be active partners in the education of their child;
- capitalize on daily learning opportunities to sustain and extend their child's learning;
- model and demonstrate enthusiasm for learning;
- complement the teacher's role by working with their child at home, (e.g. reading to and with their child; talking about school; and sharing their enjoyment and interests);
- become knowledgeable about the Primary Program and support their child's growth and development in all areas;
- take part in the life of the classroom and the school in a variety of ways, (e.g., working as parent-helpers in collaboration with the teacher; helping on field trips; acting as a resource for a variety of personal, cultural, occupational or specialized interest experiences; acting on a school advisory committee);
- maintain ongoing dialogue with the school to share and exchange information about their child.

Parents are invited to become knowledgeable about the Primary Program and support their child's growth and development in all areas.

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Position Statements

The position statements identify important issues, and define and clarify the intent of the *Primary Program* with regard to these issues.

The Position Statements include:

- **Continuous Progress**
- **Non-graded Organization**
- **Integration**
- **Play**
- **Grouping for Instruction**
- **Assessment**
- **Standardized Testing**
- **Evaluation**
- **Reporting**
- **Transition to the Intermediate Program**
- **The Primary Program for All Children**
  - **Gender Equity**
  - **Education for Native Children**
  - **Multicultural Education**
  - **Children with Special Needs**
- **Library Resources**
- **Computers and Related Technologies**
- **Career Education**
- **Partnerships**

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Primary Program Goals

Aesthetic and Artistic Development

A variety of experiences will be provided which enable the child to

- develop enthusiasm for the arts;
- imagine and visualize through the arts;
- respond through the arts;
- express and represent through the arts;
- interpret through the arts;
- create through the arts;
- appreciate the arts; and
- think, learn and communicate through the arts.

Emotional and Social Development

A variety of experiences will be provided which enable the child to

- develop a positive realistic self concept;
- develop independence;
- set appropriate goals and feel satisfaction in accomplishments and efforts;
- cope with change;
- share and cooperate;
- develop friendships;
- learn from others; and
- enjoy living and learning.

Intellectual Development

A variety of experiences will be provided which enable the child to

- sustain and extend natural curiosity;
- develop thinking through meaningful learning experiences;
- use language to facilitate thinking and learning;
- use language to communicate effectively;
- develop and integrate the attitudes, skills and knowledge of the Fine Arts, the Humanities, the Practical Arts, and the Sciences; and
- become an independent lifelong learner.

Physical Development

A variety of experiences will be provided which enable the child to

- learn and practise safety procedures;
- take care of and respect the human body;
- develop awareness of good nutrition;
- develop a wide variety of motor skills while maintaining physical fitness;
- develop an appreciation and enjoyment of human movement; and
- learn social skills in a physical activity setting.

Social Responsibility

A variety of experiences will be provided which enable the child to

- value and respect individual contributions;
- value, respect, and appreciate cultural identity and heritage;
- accept and demonstrate empathy;
- establish a collaborative environment and acquire cooperative and independent social skills;
- respect and care for the environment; and
- adapt to a changing world.

Complies with Minister of Education Order No. 8/89

Ways of Viewing Children's Learning

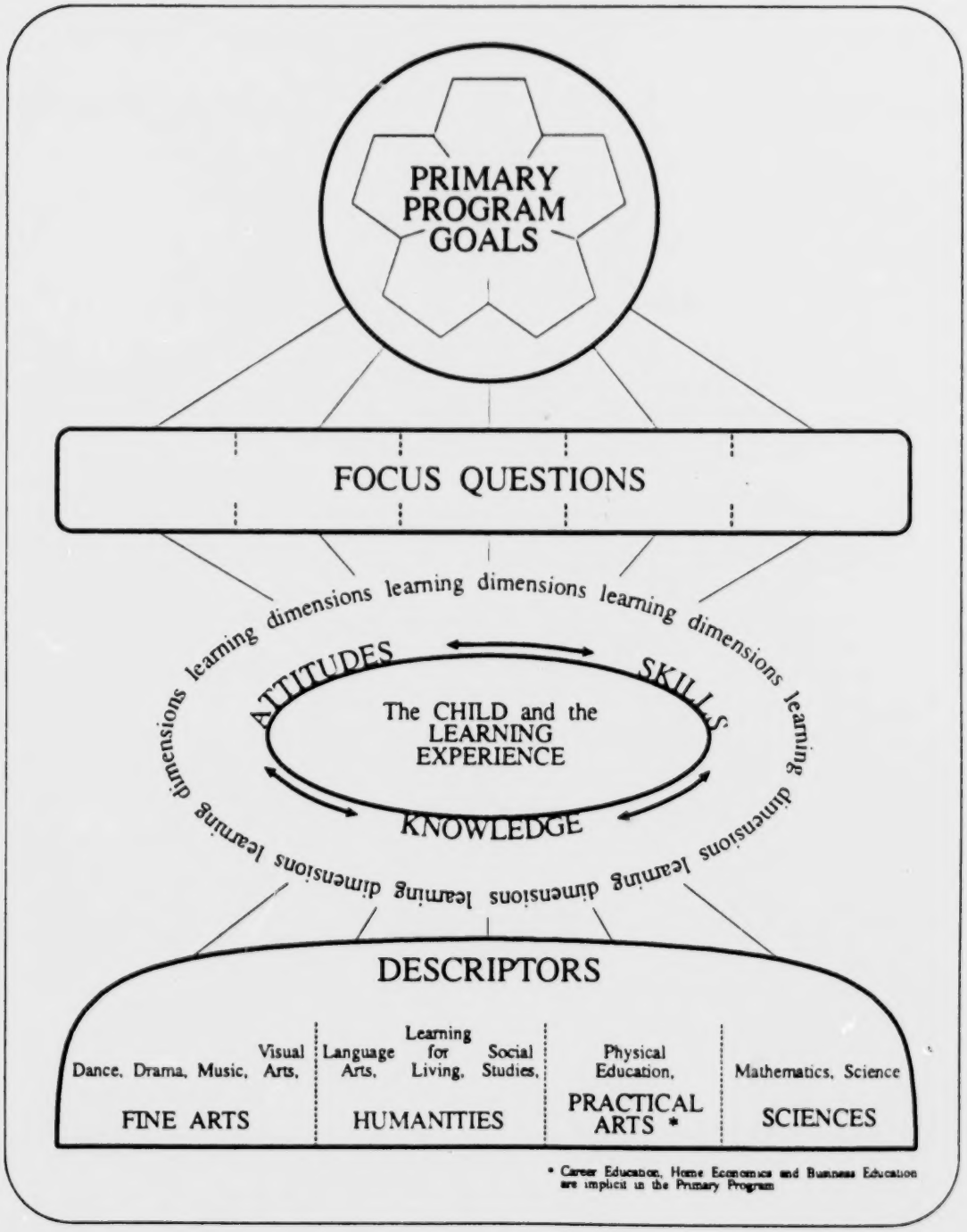

Table for Viewing the Paradigm Shift
Stages of Knowing: A Continuum of Change

From	To
Children Adapt.....	Schools Adapt
Child As Passive.....	Child as Active
Child As Dependent.....	Child as a Partner in Learning
Whole Group Instruction.	Whole-Group, Small Group and Individual Instruction
Individual Tasks.....	Balanced Small-Groups, Cooperative and Individual Tasks
Preset Material is..... Covered	Children's Capacity to Learn is Extended
3 R'S Instructional Focus.	Focus Concepts, Skills, Processes and Attitudes in 5 Goal Areas
Separate Subjects.....	Integrated Subjects
Workbooks	Concrete Materials, and Quality Literature, and a Variety of Resource Materials
Verbal Informational Emphasis	Constructivist, Problem-Solving, Thinking Emphasis

From	To
Single Correct Answers...	Alternative Solutions Generated
Work and Play Divided...	Play is one Condition of Learning
Holiday Rituals Marked...	Multicultural Content Based on the Study of Social Experience
Teacher as the Sole..... Arbitrator of What is Correct	Children as Theory Builders and Negotiators
Grouping is by Ability or Age	Group is developed by Interest and Motivation, and Learning Needs
Assessment is of What a... Child Already Knows	Assessment Focuses on How a Child Learns and What a Child "CAN DO"
Assessment is for Classification and Reporting	Assessment is Ongoing for Purposes of Instructional Decision-Making
Child is Recipient of the Teacher's Teaching	Child is Collaborator in Own Learning
Answers are Valued.....	Questions are Valued
Paper and Pencil..... Representations	Multiple Ways of Representing Knowledge

Adapted from: Dr. Pat Arlin's Opening Address, "New Beginnings," May 1989, U.B.C., which was based on Doris Pronin Fromberg (1989) "Kindergarten: Current Circumstances Affecting Curriculum", Teachers' College Record, 90, p.p. 392-403

Schooling in British Columbia

The Educated Citizen, Mandate Statement, and Goals

Program	Primary Program	Intermediate Program	Graduation Program
Time	Four Years	Seven Years	Two Years
Directions	Philosophy and 5 Goals	Philosophy and 6 Goals	Philosophy and 5 Goals
Focus	Child-centered	Learner-focused	Learner-focused, with choice of Program based on future plans
Organization	Non-graded	Multi-aged grouping or "year-by-year"	Variety of organizational forms, with emphasis on flexible options
Learning Experiences	Fully integrated Strands are implicit	Strands are explicit Integration as appropriate	Combination of courses, units, interdisciplinary studies, and programs
Level of Autonomy	Teacher and children as partners	Students and teachers as partners	Students, with direction and support, are responsible for personal choices
Assessment and Evaluation	Authentic evidence, and student self-evaluation	Authentic evidence, student self-evaluation	Authentic evidence, student self-evaluation, tests, and government examinations
Reporting	Descriptions of observations, suggestions, and written comments	Written comments Option of letter grades	Letter grades (based on marks) may be accompanied by written comments

Robert H. Anderson
KY, Oct. 22-23-24

Operational Definition of Continuous Progress (General Concepts)

1. Individual differences in the pupil population are accepted and respected, and there is ample variabiility in instructional approaches to respond to varying needs.

2. Learning, which is the "work" of the child, is intended to be not only challenging but also pleasurable and rewarding.

3. Students are viewed as a whole; development in intellectual, physical, aesthetic, social and emotional spheres is nurtured.

4. The administrative and organizational framework, for example with respect to pupil grouping practices, is flexible and provides opportunities for each child to interact with children, and adults, of varying personalities, backgrounds, abilities, interests, and ages.

5. Students are enabled through flexible arrangements to progress at their own best pace and in appropriately varied ways. Instruction, learning opportunities and movement within the curriculum are individualized to correspond with individual needs, interests, and abilities.

6. Curricular areas are both integrated and separate: instructional, programmatic and organizational patterns are flexible, with outcomes rather than mere coverage of content as the primary focus.

7. The expected standards of performance (in terms of outcomes) in the core areas of the curriculum are clearly defined, so that the points to be reached by the end of the designated (e.g. 4-year) period are well known. However, the time taken to reach that end, and the path followed to that end, is allowed to vary for students with different histories and potentialities.

8. Within the curriculum and related assessment practices, specific content learning is generally subordinate to the understanding of major concepts and methods of inquiry and the development of the skills of "learning to learn": inquiry, evaluation, interpretation amd application.

9. Student assessment is holistic, to correspond with the holistic view of learning.

10. Evaluation of the learner is continuous, comprehensive and diagnostic. Except for reference purposes as necessary

to parental and staff understanding, chronological age or grade norms play a much smaller role in evaluation and reporting activities than does the child's own growth history and potential.

11. While there are some core components of the curriculum that are especially valued (as reflected in performance standards in the content areas), the system is largely teacher-managed and controlled. Thus, it empowers teachers to create learning opportunities and use instructional strategies at their own discretion, based on the perceived needs of the students they are serving. Assessment procedures are similarly flexible, individualized and teacher-managed.

Words of Re-assurance

A. K-3 teachers have been working as hard as they can, as well as they can, and as conscientiously as they can, for lo these many years. Continuous Progress plans do not call for working harder, or undergoing some magic transformation, or being even more conscientious. They simply call for changes in approach that promise, over reasonable time, to make pupil success and achievement much more likely, and teacher satisfaction much greater.

B. Nongradedness puts more decision-making power in the hands of teachers and makes them more free to do what is obviously necessary and "right". In the final analysis, therefore, nongradedness is a vote of confidence in the skill and wisdom of teachers.

C. Nongradedness is far easier to implement when teachers work within a team (or other collaborative) structure. Abandoning self-containment, however scary or unattractive it may seem in advance, is a liberating, rewarding, and goal-fulfilling step to take.

D. American schools have been striving for more than 150 years, against many odds, to serve the needs of ALL children for an excellent education. Reforms have come and gone - but in 1990 there are for the first time some powerful converging forces in support of major change, and the next decade could be the beginning of a bright new era in education.

(Robert H. Anderson - Notes for Kentucky presentation)

Presumable Contrasts (Some documentable, some debatable)

Category	Conventional Graded System	Nongraded System
Curriculum Goals	Standard U.S.A.	Standard U.S.A.
Curriculum Design	Rigid sequence	Flexible sequence
Expectations for pupil performance	High, unrealistic	High, realistic
Teacher decision-making power	Very limited; system directed	Strong; teacher-directed
Teacher freedom w/in curriculum	Limited	High
Instructional methodology	Somewhat structured	Varied & flexible
Pupil-pupil interactions	Limited	High
Competitive atmosphere, pupils	High	Low
Reporting/evaluation system	Competitive/comparative (A-B-C-D-F)	Individualized
Homework Load	Teacher decision	Teacher decision
Homework relevance	Fair to good	Excellent
Teacher workload	High;enervating	High; invigorating
Adult collegiality	System discourages	System encourages
Relationships with parents	Grade-promotion focus: tension	Progress focus: more relaxed
Community definition of good schooling	Clear, geared to outdated assumptions	Unclear, requires constant parent education
Pupil perceptions of academic success	Tend to follow the normal curve	Personalized and positive
Pupil achievement (actual)	Follows normal curve	Curve skews to the positive side
Opportunities for teacher growth	Limited	Continuous
Influence on pupil drop-out pattern	Historically high	Dramatic reduction
School phobia & pupil tension	Familiar data	Notable reduction
Overall atmosphere	Some win,some lose	Every kid a winner

Strand III

CURRICULUM (CONTENT AND PROCESS)

How young children learn?

Tell me, I forget.
Show me, I remember
Involve me, I understand

- Chinese Proverb

Integrated curriculum and approaches --

- Content should be integrated around themes; this approach includes activities in language arts, social studies, creative dramatics, music, art, science, math, or any combination of these.
- Curriculum should be presented in an integrated format -- not 15-20 minute time segments.
- Curriculum should be presented through learning centers.
- Children should be engaged in active -- not passive -- learning activities.
- Children learn best through spontaneous play -- alone or with other children.
- Learning should be connected to something that each child knows.
- Curriculum should be designed to develop children's knowledge and skills in all areas -- physical, social, emotional, and intellectual.
- Children should be allowed to move at their own pace.
- Schedules should have as few transitions as possible.
- Curriculum should be balanced --
  teacher-directed and child-initiated
  active and quiet
  large group, small group, individual activities

Learning styles --

- All young children learn better by doing.
- Classroom teachers need to consider many variables related to learning styles - light, temperature, motivation, working alone or with peers, movement, global learning, etc. (Handout included)
- Many young children learn better with lots of breaks, with sound, soft lighting, and with their peers.

- Classrooms need tables and chairs, cushions, quiet spaces, well-lit areas, areas with soft lighting, carpet, etc.

Benefits of multi-age groupings -

- can enhance self-esteem
- increases prosocial behavior
- provides leadership opportunities for older children
- provides older children an incentive for taking responsibility and developing self-control
- offers role models for younger children
- younger children engage in more complex play and language

Philosophy --

> "In a quality early childhood program, the philosophy is based on an interactive approach, an approach that views children as active learners experiencing hands-on exploration of many diverse materials, freedom of movement, and spontaneous conversation with teacher and classmates. The children are provided the optimal environment for learning in their own individual manner and at their own individual level of development."
>
> (NAESP, 1990)

A "philosophy" handout is provided as a worksheet for principals, teachers and parents.

Kathy R. Thornburg
October 1990

Standard:

The content of the curriculum reflects a balance of all areas of learning, offered in an integrated manner and reflecting the holistic nature of learning.

An integrated approach to curriculum recognizes that content areas in instruction are naturally interrelated, as they are in real life experiences. In the resulting integrated curriculum, learning is regarded as a process rather than a collection of facts.

Quality Indicators:

- Life experiences are used as a basis for learning.
- Language acquisition and development are experience based.
- Spoken and written language skills interact and influence each other.
- Children learn about reading and writing through observing these skills being used and through using them themselves.
- Writing and reading are taught simultaneously and are experienced as an integrated part of the total curriculum, not just at assigned times.
- A natural language approach precedes phonics instruction, which is introduced in the first and second grades. Children develop an awareness of phonics through interaction with meaningful text (i.e., stories, songs, invented spelling, etc.).
- Children hear and read various types of literature carefully selected and pre-read by the teacher.
- Children understand that the purposes of reading are to construct meaning and to experience enjoyment.
- Skills are presented in a meaningful context.
- Children's progress in reading is continuous, and materials are provided at a variety of ability levels in each classroom.
- Independent writing and reading practice is scheduled each day.
- Numbers and numeration are developed through manipulation of concrete objects and are understood by the children before they move to operations.
- Development of logical thinking and problem solving is fostered.
- Many opportunities are made available for children to explore, investigate, and discover mathematics.
- Relationships among mathematical skills and concepts are emphasized.
- Concepts, dispositions, and the acquisition of skills are addressed in an integrated fashion; content is not presented as isolated bits of knowledge.
- Creative expression is developed through art, music and drama, dance, and movement.
- Values are taught through modeling, role playing, and simulation.
- Content is responsive to the cultural and linguistic diversity of children involved. The children are frequently taken into the community, and representatives of the community come frequently to the school.
- Play is respected as an appropriate way of learning.
- Content is integrated around themes. The theme approach includes activities in language arts, social studies, creative dramatics, music, art, science, math, or any combination of these—rather than via short periods of time spent on each subject area.

Taken from: Early Childhood Education and the Elementary School Principal, National Association of Elementary School Principals, 1990

Children use language to help them comprehend their world and learn to function in it through:

1) questioning which initiates and directs their active searching,
2) focusing their attention, thought, and action,
3) making understandings more precise,
4) making understandings more retrievable,
5) reinterpreting past experience,
6) going beyond present personal experience,
7) interacting with others,
8) moving from more action-based to more reflective modes of thinking.

(Lindfors, 1987, p. 262)

Teachers, principals, and parents use language with children to accomplish a variety of purposes:

1) to provide or obtain information,
2) to encourage the initiation or continuation of interaction,
3) to regulate or control behavior,
4) to express themselves--their feelings, preferences, expectations,
5) to encourage elaboration of what the children are sharing,
6) to help focus attention and guide or stimulate observation and thought,
7) to confirm what has been said,
8) to seek clarification.

Adults can facilitate children's active exploration and learning through their own conscious and selective use of language for some of these purposes. Being more aware of the purposes of our use of language with children, we can choose when and how we speak and what we say. When our intent as educators and parents is to foster higher-level cognitive involvement in children than rote recall or basic comprehension, then we can encourage them to observe closely, compare, apply, hypothesize, predict, test, and synthesize. We can do this through demonstrations, our own modeling of these behaviors, and through the use of open-ended questions which prompt their active participation in the processes of exploration and learning.

Open-ended questions are questions for which there are a number of possible responses rather than just one. They inquire with words such as "how," "what do you notice" or "what do your think," "why," or "who- what- where- or when- could." They are intended to encourage the child to observe details, changes, or sequences; to remember, reflect, or try out an idea. They stimulate individual expression and, therefore, varied responses.They can encourage utilization of the pool of human experience, knowledge, and skills that exist in the group. They do not "fish" for the "right answer" nor expect simple 'parroting" of what the adult has previously presented.

In an accepting environment, open-ended questions encourage children to openly and honestly share what they know, feel, and think. They can reveal how they perceive their experiences and how they approach learning tasks. This information gives us what we need in order to continue to guide the learning of each individual child and the group as a whole.

Any subject area or situation can potentially be used for open-ended questioning. Listed below are some examples of open-ended questions.

GENERALLY APPLICABLE TO ALL CURRICULUM AREAS:

How would you find out? How would you do that? How do you know?
What do you notice? What do you think would happen if.....?

SCIENCE:

What did you observe the crayfish doing? What do you think will happen if we put a tadpole into the aquarium with the crayfish? What if you added a snail? What do you know about crayfish that makes you think so?

MATH:

How could we estimate how many jellybeans are in this jar? What other ways can you think of? What other information do we need to be able to answer this question? How many different ways can you find to group these counters?

READING:

What sort of girl is "Goldilocks"? What does "curious" mean? In what ways is Curious George curious? What do you like about the kinds of things he does? What don't you like about what he does? How else could these two stories have ended?

SOCIAL STUDIES:

Why have people in different parts of the world lived in different kinds of shelters- tents, huts, cabins, houses, castles, caves? What do you know about different places that would help you decide? Why do you think people chose the materials they did? How would you design a shelter for living in the tropics ?

MUSIC:

What do you think of when you hear each of these kinds of music ? What makes these pieces of music different? For each of these occasions, what kinds of music would you want to use -when you're at the zoo; when your team just lost the game; when you have just learned to ride a bike or to whistle? What tempo and rhythm would you want to use?

ART:

What words would you use to describe the sky at night; to describe how you felt when you had a cold; the school trip to the riverfront? How can you show the feeling "sad" or "silly" or "giggley" with these media? What is your happiest or angriest experience with something this color? Which of these media do you think would best illustrate your idea ? Why?

On the next page you are given a situation for each subject area and encouraged to create your own open-ended questions to use with children. Just below is information on two resource books on whole oral and written language learning.

Lindfors, Judith W. (1987). Children's Language and Learning, Second Edition, Prentice Hall ISBN 0-13-131962-0

Temple, Charles; Nathan, Ruth; Burris, Nancy; Temple, Frances (1988). The Beginnings of Writing, Boston, Allyn & Bacon, Inc. ISBN 0-205-11107-6

CREATE YOUR OWN OPEN-ENDED QUESTIONS

MATH

SITUATION: ordering food, paying a bill, and making change in a restaurant

POSSIBLE QUESTIONS:

A. What foods can you afford to order with the amount of money you have?

B.

C.

D.

SOCIAL STUDIES:

SITUATION: display and discussion of ideas and words which are recycled from earlier times in American history- can include household objects like pens, toys, toasters.

POSSIBLE QUESTIONS:

A. Black iron frying pans or skillets were once called "spiders" in parts of New England. How do you think they might have gotten that name?

B.

C.

D.

SCIENCE

SITUATION: cooking activity: making spaghetti or pizza; making fruit salad

A. What happens to pasta when we cook it? What other foods get soft with cooking? Which ones get hard? What do we know about each food that might help us discover why they change the way they do?

B.

C.

D.

ART

SITUATION: chalk, watercolors, crayons, ink available; children have experienced working with each. Discussion of different ways of expressing ideas and moods using alternate media.

A.

B.

C.

LANGUAGE/READING

SITUATION: children are shown a couple of paintings of scenes including people and/or animals. They are to write about one of the pictures, not describing it but telling a story instead. Then they will share and discuss their stories in small groups.

A.

B.

C.

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(Adapted from book lists by
Catherine Copeland and Stevie Hoffman)
Distributed by Kathy R. Thornburg - 10/90

LEARNING STYLES MODEL

DESIGNED BY
DR.RITA DUNN
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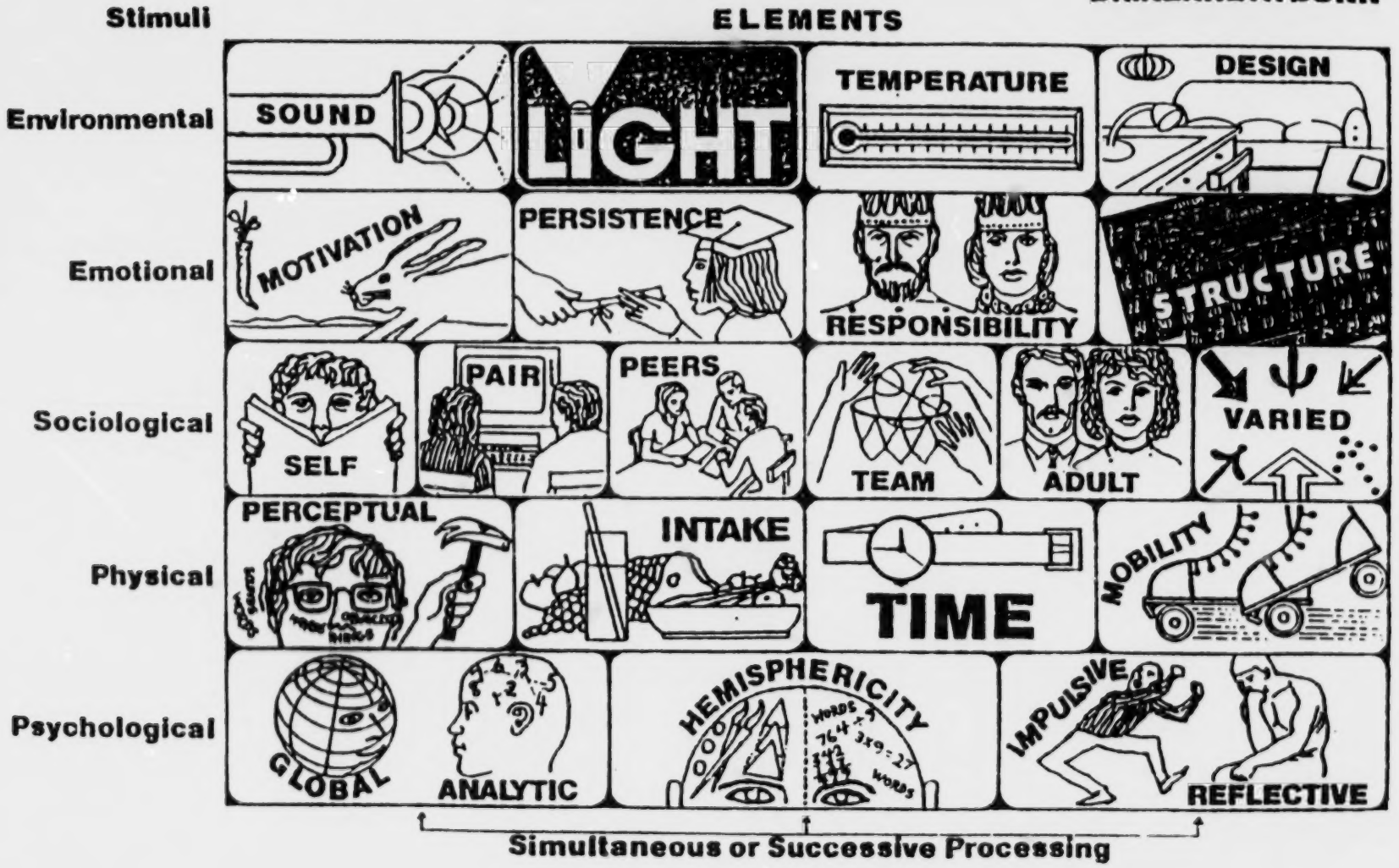

Research on Teaching Through Learning Styles Results in Increased Academic Achievement and Improved Attitudes

Researcher, Title, University	Population	Findings
Marie Carbo. "An Analysis of the Relationships Between the Modality Preferences of Kindergarteners and Selected Reading Treatments as They Affect the Learning of a Basic Sight-Word Vocabulary." Ed.D. Dissertation, St. John's University, 1980.	Kindergarten Children	Children taught through their strongest perceptual modalities learned more easily and retained better than when taught through either their secondary or tertiary strengths (or weaknesses).
Jeffrey S. Krimsky. "A Comparative Study of the Effects of Matching and Mismatching Fourth Grade Students With Their Learning Style Preferences for the Environmental Element of Light and Their Subsequent Reading Speed and Accuracy Scores." Ed.D. Dissertation, St. John's University, 1982.	Fourth Graders	Students who preferred bright light performed statistically significantly better when tested in brightly lit areas; those who preferred reading in dim light did equally as well in a low-light setting. Both groups performed statistically less well when tested in mismatched situations.
Janet Perrin. "An Experimental Investigation of the Relationships Among the Learning Style Sociological Preferences of Gifted and Non-gifted Primary Children, Selected Instructional Strategies, Attitudes and Achievement in Problem Solving and Word Recognition." Ed.D. Dissertation, St. John's University, 1984.	First, Second, and Third Graders	1. Achievement was significantly higher and attitudes more positive when students were taught through approaches that matched their diagnosed sociological preferences. (Learning alone vs. peers vs. adults.) 2. Gifted children learned best with their peers.
Karen S. Urbschat. "A Study of Preferred Learning Modes and Their Relationship to the Amount of Recall of CVC Trigrams." Ph.D. Dissertation, Wayne State University, 1977.	First Graders	1. Modality strengths can be identified among first graders. 2. Superior and significant results occurred when a treatment was matched to the appropriate modality. 3. Most of the first graders in the study found it easier to learn through either a visual or a combined auditory/visual treatment than solely through an auditory approach.

Researcher, Title, University	Population	Findings
Roberta Wheeler. "An Investigation of the Degree of Academic Achievement Evidenced When Second Grade Learning Disabled Students' Perceptual Strengths Are Matched and Mismatched with Complementary Sensory Approoches to Beginning Reading Instruction." Ed.D. Dissertation, St. John's University, 1973.	Second Graders	Learning disabled second graders, who were introduced to new words through their identified perceptual strengths, scored significantly higher on vocabulary tests than those taught through discrepant modalities.
Frederick H. Weinberg. "An Experimental Investigation of the Interaction Between Modality Preference and Mode of Presentation in the Instruction of Arithmetic Concepts to Third Grade Underachievers." Ed.D. Dissertation, St. John's University, 1983.	Third Graders	Students who evidenced either high auditory/high visual or low auditory/low visual modalities were randomly selected and taught a subtraction unit with either matched or mismatched instructional materials. Each group of students performed significantly better on a standardized achievement test when taught through complementary strategies.
Sheila Jaronsbeck. "The Effects of a Right-Brain Mathematics Curriculum on Low-Achieving Fourth Grade Students." Doctoral Dissertation, University of South Florida, 1984.	Fourth Graders	1. The ratio of rights to lefts was greater at the lower end of the achievement continuum than at the higher end. 2. Lefts achieved better than rights in the conventional control groups. 3. Rights achieved better than lefts in activity-oriented groups. 4. Rights learned better when taught through manipulatives and when skills were sequenced from the concrete to the pictorial before being taught abstractly.

RESEARCH ON THE EFFECTS OF MIXED-AGE GROUPING RELATED TO EARLY CHILDHOOD EDUCATION PROGRAMS

Researcher, Title, Source, and Findings	Population
M. Azmitia. (1988)."Expertise as a Moderator of Social Influence on Children's Cognition." Symposium of the Society for Research in Child Development, Baltimore Maryland, April 1987. Findings: 1." Experts", even at the preschool level, influenced "novices'" learning positively during cooperative play, offering information, guidance, and new viewpoints.	"Novices" & "Experts" among School-Aged Children
G. H. Brody, Z. Stoneman, & C. E. MacKinnon. (1982)."Role Asymmetries in Interaction Among School Aged Children, Their Younger Siblings and Their Friends." Child Development, 53, 1364-1370. Findings: 1. When in dyads, older children assumed the "dominant" role when playing with younger children, yet were "equalitarian" with their best friends. 2. In triads, older children assumed a less dominant and more facilitative role.	School-Aged Children
D. C. French. (1984). "Children's Knowledge of the Social Functions of Younger, Older, and Same Age Peers." Child Development, 55, 1429-1433. Findings: 1. Younger children assigned instructive, leadership, helpful, and sympathetic roles to photos of older children. Older children perceived younger children as requiring more help and instruction. Conclusion: age is a significant perceptual clue to appropriate role behavior; yet age is not an important factor in friendship choice.	First and Third Graders
D. C. French, G. A. Waas, & A. L. Stright. (1986). "Leadership Asymmetries in Mixed-age Children's Groups." Child Development, 57, 1277-1283. Findings: 1. Older children were more likely to exhibit leadership behaviors than were younger children. 2. Overall, children engaged in verbal and task-related behavior oriented toward task completion. 3. Asymmetry was most pronounced among older children; yet this was not dominance, since the leadership behaviors were facilitative of group process (i.e.-soliciting opinions of younger children.) 4. There was less opinion-giving among the older children in the mixed-age group than in the same-age group.	School Aged Children
J. Goldman. "Social Participation of Preschool Children in Same versus Mixed-Age Groups." Child Development, 52, 644 650. Findings: 1. Younger children spent less time engaged in parallel play and required less teacher direction when they were placed in mixed age triads. Conclusion: Younger children engage in more interactive and more complex types of play when older peers are easily accessible.	Three- and Four Year-Old Children

Researcher, Title, Source, and Findings	Population
W. C. Graziano. (1978). "Standards of Fair Play in Same-Age and Mixed Age Groups of Children." Developmental Psychology, 14 (5), 524-530. Findings:1. Younger children were less likely to adopt rules of fair play based on task than were older children. 2. Younger children used different rules depending on size and perceived age of peers. 3. Both younger and older children used fair play rules that were task related when they perceived peers as their own age and physical size.	First and Third Graders
W. G. Graziano, D. French, C.A. Brownell, & W. W. Hartup. (1976). "Peer Interaction in Same-Age and Mixed-Age Triads in Relation to Chronological Age and Incentive Condition. Child Development, 47. 707-714. Findings: 1. On group task, older children accepted more responsibility for overall group performance. 2. As a function of age differences, children in mixed-age groups demonstrated overall task awareness and assumed responsibility for task completion. Conclusions: 1. Older children might be more sensitive to complexity of interaction when in mixed-age rather than in a single age groups. 2. Initiative and assumption of responsibility by older children may be an accomodation to the group's building task by perception of themselves as more proficient builders.	First and Third Graders
C. Howes & S. A. Farver. (1987). "Social Pretend Play in Two -Year-Olds: Effects of Age of Partner." Early Childhood Research Quarterly, 2 (4), 305-314. Findings: 1. Two-year-olds engaged in more cooperative social pretend play with older peers than with same-age peers. 2. Two-year-olds were more effective in cooperation with age mates than with older children. Conclusions: 1. Findings suggest children are more assertive with age mates and younger children than with older children. 2. Older children have the skills to structure roles for both partners, allowing the toddler to engage in more complex play. 3. The interaction in the mixed-age group allows the older child to practice and master social skills through dramatic (social pretend) play.	Two- and Five-Year Old Children
M. D. R. Lougee & W. G. Graziano. (1986) "Children's Relationships with Non-Age Peers" Unpublished manuscript. Findings: 1. When older children in a mixed -age class are encouraged to remind younger ones of the rules, their own self-regulation may be enhanced.	Review of Early Childhood Research Literature

Researcher, Title, Source, and Findings	Population
M. D. Lougee, R. Grueneich, & W.W. Hartup. (1977). "Social Interaction in Same-Age and Mixed-Age Dyads of Preschool Children". Child Development, 48, 1353-1361, Findings: The amount of social interaction did not vary by ages. 2. Verbal communication was consistently adapted to the age of the listener. 3. Young children's linguistic maturity (mean length of utterance) improved as they addressed older peers.	Preschool and Kindergarten Children
N. S. Mounts & J. L. Roopnarine. (1987). "Social Cognitive Play Patterns in Same-Age and Mixed-Age Preschool Classrooms." American Educational Research Journal, 24 (3), 463-476. Findings: 1. Younger children engaged in more complex play with older than with same age peers. Conclusion: Younger children can engage in play in situation too complex for them to initiate yet not too complex for them to participate.	Three- & Four-Year- Old Children
David Pratt. (1983) "Age Segregation in Schools." Annual Meeting of the American Education Research Association, Montreal, Quebec, Canada. ERIC Document Number ED231038. Findings: 1. Studies suggest multi-age grouping has no consistent relationship with academic achievement; it does, however tend to be associated with better self-concept and attitude toward school. 3. Same-age groups tend to produce increased competition and aggression; multi-age groups tend to be characterized by increased harmony and nurturance. 4. Across childhood, friendships are increasingly influenced by both age and gender. 5. Two studies showed fewer isolates in mixed-age classrooms and schools. Conclusion: a group containing an age span of two or three years would provide more opportunities for children to find appropriate friends than would the conventional one-year age group.	Review of Literature on Multi-age Groupings in Elementary Schools (26 Studies)
J. L. Roopnarine & J. E. Johnson (1984). " Socialization in Mixed-Age Experimental Program." Developmental Psychology, 20 (5). 828-832. Findings: 1. Younger children tended to interact more often with older children; older ones showed no real preference in age-related choice of partners. 2. Age contributed to the prosocial (help giving, sharing, turn taking, invitations to play, praise, imitation, directing) behaviors exhibited toward younger and older peers. Conclusion: The multi-age group provides older children the opportunitiesto refine social skills and younger ones the opportunities to observe behaviors of older children.	Three- through Eight-Year Old Children
M. Shatz & R. Gelman. (1973). "The Development of Communication Skills: Modification in the Speech of Young Children as a Function of Listener." Monographs of the Society for Research in Child Development, 35 (5), series no. 152. Findings: Sentence length and complexity were found to differ depending on the age of the listener; for those closer in age, fewer adjustments were made.	Three- and Four- Year Old Children

Checklist for a Non-Sexist Classroom

Being non-sexist doesn t require a great deal of effort. It does involve a heightened sensitivity to the things which encourage sex stereotyping, however, and an understanding of how they inhibit children's development.
This checklist has been designed to help you to create and maintain a non-sexist environment in your classroom, and to help you to think in non-sexist terms.

Your Classroom

Are there the same number of pictures of boys and girls around the room?
Do the pictures show girls in active play?
Are the boys shown in quiet play or nurturing situations?
How many pictures show 'positive' behavior (making decisions, helping, etc.) of boys?
Of girls?
How many pictures show 'negative' behavior (crying, hitting, getting into trouble, etc.) of boys?
Of girls?
Are there pictures of boys and girls in each activity area?

blocks	sand/water
dramatic play	reading
(doll corner)	cooking
art	other areas
woodworking	

Non-Sexist Teaching

Do you develop activities which explore non-traditional families?

Is it possible for girls to become familiar with machinery or mechanical objects in your classroom?

Do you help make boys feel comfortable in the kitchen?

Do you make the effort to expose children to people in non-traditional work roles?

Do you encourage positive body awareness?

Do you encourage children to explore non-traditional roles?

Do you look for ways to encourage non-sexist attitudes in children?

Using the Classroom

Do girls and boys use all areas of the classroom?

dramatic play	woodworking
art	sand/water
cooking	reading
blocks	other areas

Do you encourage both girls and boys to explore all areas?

Do you encourage girls to work with blocks?

Do you encourage boys to play with dolls?

Does your 'dress up' area have props which make it possible for children to enact or try out non-stereotyped roles?

Do you involve girls in active play situations?

Do you involve boys in small motor activities or nurturing situations?

You and Your Attitudes

Do you think about the possible implications of how you treat boys and girls?

Do you ever think about the sexist implications of everyday language?

Do you discuss non-sexist approaches with other teachers? With parents?

Do you try to encourage non-sexist attitudes in children? In parents?

DEVELOPING AND REFINING AN EDUCATIONAL PHILOSOPHY FOR YOUNG CHILDREN

Your first task and first challenge as individauls and as a group (principals, teachers, and parents) is to develop, modify, or refine your philosophy about the education of children in the context of multi-age grouping.

Your philosophy will guide your thinking and serve as the basis for your program planning and implementation decisions. It will reflect your knowledge and beliefs, your values and priorities. The following questions and points to consider are intended to serve as a stimulus for your group discussions.

1. WHAT DO YOU BELIEVE ABOUT HOW CHILDREN LEARN, IN PARTICULAR CHILDREN IN KINDERGARTEN THROUGH THIRD GRADE?

   (Young children are active learners who construct their conceptual and language systems; they need hands-on exploration and considerable freedom to move and interact with both children and adults in conversation and shared tasks; they need a balance of play in a teacher prepared environment; they learn from each other; they vary widely in level and rate of development within the group and within themselves in different areas)

2. WHAT DO YOU BELIEVE ABOUT MOTIVATION AND WHAT PROMPTS CHILDREN TO LEARN?

   (Children have intrinsic motivation to comprehend their world and have an effect on it and be able to function competently in it; intrinsic motivation varies with individuals and changes in form over time; children respond positively to extrinisic rewards also. What rewards are important -- praise, recognition, personal satisfaction, material or symbolic compensation? What role do consequences and punishments need to play and why? Who has what part of the responsibility in the teaching/learning process? (child, parents, teachers, principal, community members))

3. WHAT DO YOU BELIEVE CHILDREN NEED TO LEARN?

   (Children need a rich, varied environment of objects, situations, people of varied ages, backgrounds, experiences and skills with which and with whom to interact. What is the role of the school in each of these areas? How do you see other child-related agencies in the community in terms of relating to some or all of these areas of children's development and in coordination with the school?)

4. WHO DO YOU BELIEVE HAS THE RESPONSIBILITY AND RIGHT TO BE INVOLVED IN THE DEVELOPMENT AND EDUCATION OF YOUNG CHILDREN?

   (Parents have a legal and moral responsibility for their children's welfare and development; schools have a legal and moral responsibility to provide an educational environment to all children. What are the rights and responsibilities of different adults-parents, community people, teachers, principals?)

5. WHAT DO YOU BELIEVE IS IMPORTANT ABOUT THE NATURE AND EVENTS WITHIN THE SOCIAL, PHYSICAL, AND TIME ENVIRONMENT?

   (Children need to be able to move and talk, making varied levels and kinds of sound and with varied amounts of movement. How should time be distributed and used? What are the spatial limits of the learning environment? (classrooms, playground, outdoor classroom, parks, businesses, community services)

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY
8:00- 8:10	Set up Materials	8:00 8:10	Set up Materials	8:00 8:10	Set up Materials	8:00 8:10	Set up Materials	8:00 8:10	Set up Materials
8:10- 8:45	Tutoring and Observation	8:10 8:45	Group 1	8:10 8:45	Group 3	8:10 8:45	Group 1	8:10 8:45	Group 3
8:45- 9:20	PREP	8:45 9:20	Group 1	8:45 9:20	Group 3	8:45 9:20	Group 1	8:45 9:20	Group 3
9:20- 9:55	Group 6	9:20 9:55	PREP	9:20 9:55	Group 6	9:20 9:55	PREP	9:20 9:55	PREP
9:55- 10:30	Group 6	9:55 10:30	Tutoring and Observation	9:55 10:30	Group 6	9:55 10:30	Tutoring and Observation	9:55 10:30	Tutoring and Observation
10:30- 11:05	Group 7	10:30 11:05	Group 7	10:30 11:05	PREP	10:30 11:05	Group 7	10:30 11:05	Group 7
11:05- 11:45	Projects	11:05 11:45	Pod	11:05 11:45	Pod	11:05 11:45	Pod	11:05 11:45	Pod
11:45- 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period
12:45- 1:20	Group 5	12:45 1:20	Lilly Assessment Project	12:45 1:20	Lilly Assessment Project	12:45 1:20	Group 5	12 45 1:20	Lilly Assessment Project
1:20- 1:55	Group 5	1:20 1:55	Curriculum Development	1:30 1:55	Planning and	1:20 1:55	Group 5	1:20 1:55	Curriculum Development
1:55- 2:30	Group 2	1:55 2:30	Group 4	1:55 2:30	Evaluation or	1:55 2:30	Group 2	1:55 2:30	Group 4
2:30- 3:05	Group 2	2:30 3:05	Group 4	2 30 3:05	Superivision of Presentation	2:30 3:05	Group 2	2:30 3:05	Group 4
3:05- 3:30	Materials/Super- vise Dismissal	3:05 3:30	Materials/Super- vise Dismissal	3:05 3:30	Materials/Super- vise Dismissal	3:05 3:30	Materials/Super- vise Dismissal	3:05 3:30	Materials/Super- vise Dismissal

1. Use 35 and/or 40 minute time-blocks or multiples thereof.
2. Use double periods for Language Arts and Science (See General Overview).
3. Complete the time-blocks for each period each day.
4. Identify teacher's lunch periods as TLP.
5. Identify teacher's preparation time as PREP including time after 8:00 a.m. and before 5:30 p.m. in RED.
6. Write-in special assignment in appropriate time-blocks, e.g. AV Coordinator, Lunch Duty, Safety Patrol
7. Jr. High Teachers: Write-in the Subject and Grade Level for each time-block taught.

Teacher: Kathy Ann Calwell Grade or Subject: _____ Semester Ending: _____ Room No. Art Room

Primary School Institute
Louisville, Kentucky
Strand IV.: Instruction
Charlie Rathbone, PhD: University of Vermont

I. Making the Shift
- A. Envisioning the ungraded primary room
  1. Personal shifts
     - •planning strategies
     - •goals for students
     - •how my classroom looks
     - •what I do when I teach: my authority, organization, relationship with children
  2. Why I am a teacher: personal fulfillment

- B. Why do this?
  1. what is the opportunity here for me?
     a. Bergstrom's Model of Concerns
     b. Berliner's phases of career (from Dreyfus)
  2. what is the opportunity here for my children?
     to believe in oneself as a learner and as an okay person--most of the time, all else will follow

- C. What do I need to do instructionally?
  1. give yourself permission to take some risks -- work in your school setting to support risk-taking in other
  2. recall where you have been most successful in dealing with children of varying degrees of accomplishment: choose that area of strength and being there
  3. try to shift your focus from achievement to learning
  4. rethink your instructional practice to accommodate for a greater variety of learning styles by:
     - • using grouping strategies that take advantage of diversity
     - • teaching in a way that enables learners of all ability levels to have access
     - • knowing something about learning styles
     - • understanding how children construct their own knowledge of the world and how to provision a classroom that builds from that understanding

II. Learning Cooperatively
- A. The Research
  1. Grant and Rothenberg
  2. Oakes
- B. The Old Days
- C. The New Days
  1. Cooperative Learning

a. positive interdependence
b. individual accountability
c. face-to-face interaction
d. use of group and interpersonal skills

2. Peer Tutoring
   a. clear goals
   b. prepare class
   c. congruence of activity to teacher's activity
   d. simple and direct approach
   e. tutoring materials independent
   f. train tutors in use of materials, teaching strategies, use of feedback, positive reinforcement
   g. monitor process, have tutors track progress
3. Groupwork
   a. how will students work together
   b. train cooperative skills and norms
      say your own ideas
      listen to others, everyone gets a chance
      ask others for their ideas
      give reasons for your ideas, discuss other ideas
   c. what tasks will groups perform
   d. lay the groundwork with great care
   e. how will things be evaluated
4. Developmentally Grounded Process Curricula
   a. the writing process
   b. manipulatively based mathematics
   c. literature/language-based reading programs
   d. thematic curricula
   e. using a variety of materials
5. Classroom as Community
   a. shared learning environments
   b. meeting based problem solving
      academic
      social
      personal

III. Where is Mastery? Has Direct Instruction Gone?
   A. Turning Hunter Upside-Down
      1. motivation
      2. reinforcement
      3. retention
      4. transfer
      5. Bloom's taxonomy
   B. Direct Instruction
      1. right time
      2. right place

IV. Assessment
   A. Ongoing
   B. Periodic

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Miller, Bruce The Multigrade Handbook: A Resource Handbook for Small, Rural Schools, Northwest Regional Educational Laboratory, Portland, Oregon. 1989. (1-808-532-1900)

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Schniedewind, N. and Davidson,E. Cooperative Learning, Cooperative Lives Wm. C. Brown Publishers, Dubuque, Iowa. 1987.

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Calkins, L. The Art of Teaching Writing Portsmouth, NH:Heinemann Publishers 1986.

A Tapestry for Mastery Learning:
Threads from Long Ago
C. Rathbone, 1989

I. John Dewey, 1903
- child centered vs. subject centered curriculum
  - (The Child and the Curriculum)

II. Ned Flanders, 1970
- direct and indirect teaching
- 2/3 rule
- higher achievement with greater ratios of indirect teaching
  1. accepting feelings
  2. praise/encourage
  3. accepting ideas
  4. asking questions
  5. giving information
  6. giving directions
  7. criticizing/justifying authority
  8. student talk, teacher initiated
  9. student talk, student initiated
  10. silence/confusion
     - 1-4=indirect influence
     - 5-7=direct influence

III. Benjamin Bloom, 1973
- elements of mastery learning
  - pretesting
  - diagnosis
  - clear and specific objectives
  - frequent formative evaluation
  - predetermined standards for mastery on criterion referenced, summative tests
  - remediation and corrective instruction
  - additional learning time as needed

- major issues, 1980
  - available time vs. time on task
  - intelligence vs. cognitive entry
  - formative vs. summative testing
  - teachers vs. teaching
  - parent status vs. home environment

IV. Ron Edmonds, 1979
- effective schools research
- reanalyzed coleman's data
- made a school building the unit of change
- characteristics of effective schools (urban, poor, elementary)
  - safe and orderly environment
  - focussed and shared school mission
  - instructional leadership
  - climate of high expectations
  - high time on task
  - frequent monitoring of progress
  - shared sense of efficacy

V. Richard Hersh, 1981
- a study of studies of the "effective schools literature"
  - high academic learning time (ALT)
  - frequent monitored homework
  - frequent monitoring of student progress
  - tightly coupled curriculum
  - variety of teaching strategies
  - opportunities for student responsibility
  - atmosphere of pervasive caring

VI. Madeline Hunter, 1981
- the total teaching act
  - content mastery
  - planning skills
  - instructional skills
    - select objectives at correct level of mastery
    - teach to an objective
    - monitor and adjust
    - maintain focus on learning
    - use principles of learning
      - motivation
      - retention
      - reinforcement
      - transfer
        - similarity of learning
        - association
        - critical element identification
        - degree of original learning
  - human relations skills
  - skills in selection and use of materials
  - classroom management skills

VII. Al Mamary, 1984
- Johnson City Outcomes Based Model
- outcomes based teaching
  - preassessment
  - motivation
  - cueing
  - best shot instruction
  - guided practice and monitoring
  - independent practice and monitoring
  - correctives and enrichment
  - summative testing

VIII. Carini, 1982
- a five year study of the school lives of seven children
  - concerns
    - fragmentation of time
    - disruption of experience
  - needs
    - context for meaning
    - wholeness in learning
    - continuity across learning settings
- recommendations
  - interage classroom groupings within school units
  - specialists services incorporated within classroom setting
  - heterogeneous groupings of children by skill, age, ability
  - integrative learning
  - classroom provisioning with open-ended materials
  - large time blocks
  - free flow of conversation and physical movement
  - regular staff review

Practices *(what you can see occurring in the classroom)*

1. whole learning approaches to reading/writing/speaking
2. out of school activities combined with in school activities
3. writing as a process for all children
4. cooperation in learning activities
5. learning centers as places for independent activity
6. nontraditional room arrangements
7. intentional use of varied approaches to curriculum: physical, concrete, representational, abstract, metaphoric
8. documentation of academic growth
9. interactive team teaching
10. area studies
11. interdisiplinary, thematic units
12. classroom meetings for problem solving
13. focus on how things are known and what things are known
14. use of manipulative materials
15. activity times

Dispositions to Teaching *(the way a teacher teaches, embodied style)*

1. a physical environment organized for physical, social , verbal interactions
2. a curriculum that is often interdisciplinary
3. a curriculum that has strong organic elements
4. an accountability system tht is formative and documentary
5. subtle control of all aspects of classroom life by the teacher
6. ongoing communication between home and classroom
7. basic skill learning is grounded in content activity that holds real interest to the child
8. a family-like classroom society
9. a classroom where children have some choice in what and how they learn

Beliefs *(guiding principles about human development and learning held by the teacher)*

1. the relationship between a teacher and the students is a dynamic one where power is often shared, explicitly or implicitly
2. a child actively constructs what he/she knows about the world
3. intelligence is the ability to adapt to new information whatever form it takes
4. human beings manifest several intelligences: artistic, musical, mathematical, spacial, interpersonal, intrapersonal, verbal

Rathbone and McCLaskey, 1984

A DAY'S SCHEDULE

From Molly McClaskey's 1984 Classroom at Williston

Affects how children approach a task. Do they feel hurried?
Getting control of time is a major element: time for depth, breadth, and revision.
Here's a sample schedule -- leave lots of big blocks!

ARRIVAL

20-30 minutes
getting comfy time
a time for 'activities'
teacher conferencing time -- checking back with yesterday's tasks
transition by music into...

CLASS MEETING

20 to 30 to 40 minutes depending on time of year, topic, and need
calendar
orientation to the day
opening ritual -- shared book, chart
good morning chart -- plan for the morning
structure for the day
sometimes sharing, sometimes demonstration, sometimes problem solving
laying out a new 'piece' for the day: material, activity, a task
transition perhaps by excusing children to task areas/activity centers

WORK TIME

45 to 60 minutes
children doing their work in various areas
key words, process writing, language arts follow up (M/W)
or
maths work (T/Th)
or
time for integrated unit work
(teacher record keeping)
clean up
Class Meeting
share what happened in the morning
assessment, critique, what happened, next steps perhaps

EAT AND RECESS

READING TIME

Silent
15 (September) to 45 (April) minutes
a time for focus and recentering
teacher observation
small group and individual conferences
lap-sit reading
transition

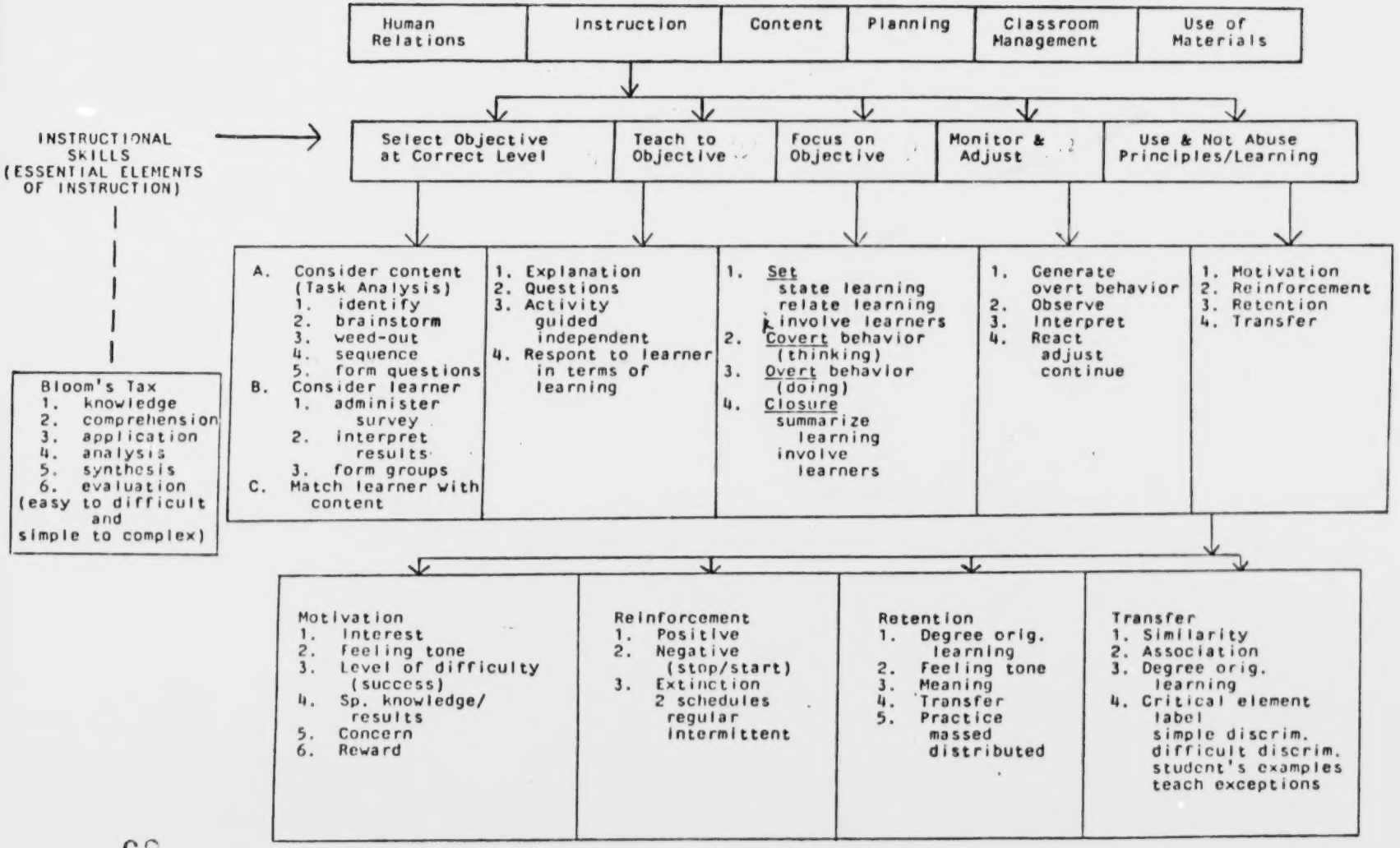
Aloud
whole group/book sharing/book talks, big books
transition

WORK TIME
45 to 60 minutes
social studies or science or continuation of integrated unit
record keeping

RECESS

CLASS MEETING
What did we do today? What might happen tomorrow?
Parent Communications
Singing and Final Clean-up
Close and Home

TOTAL TEACHING ACT



RATHBONE

Cooperative Learning, Cooperative Lives
Nancy Schniedewind and Ellen Davidson
Wm. C. Brown, Publishers
1987

STRUCTURING COOPERATIVE LEARNING IN THE CLASSROOM

SETTING UP YOUR ROOM

Setting up your classroom is the first step in preparing for cooperative learning. One way is to arrange the room permanently so that it is conducive to cooperation. Other work can be done in such a setting as well. Arrange desks or tables in clustered groups or arrange individual desks in pairs. Use bookshelves, screens, and dividers to enclose a carpeted corner with pillows where students can work apart from the large classroom when this is needed. Set up a small, safe area for "in-process projects" so students don't unintentionally ruin others' work. A second alternative is to keep your room in your standard arrangement and move desks into clustered groups only for cooperative work. Set clear norms for moving desks quickly and quietly.

Cooperative Convincer

At the beginning of the school year, plan a big classroom project that a student just couldn't do alone. For example, the class could create a huge mural, write a class recipe book, or create potato block T-shirts with each students' potato block symbol stamped on each person's T-shirt. Such inherently cooperative projects that result in unique products often convince students of the exciting benefits of cooperation.

SCHEDULING TIME

At first, it takes longer to cover material when learning is structured cooperatively. As the weeks go on and students become skilled in this new format, cooperative lessons take no more time than other methods. The advantage is that more students are learning and retaining the material. Also, they'll keep these cooperative skills from one year to the next!

When introducing a cooperative lesson, be sure to set a time limit for the activity. Make this limit clear. There is no reward for finishing first; the point is to complete the activity and do it well. On short activities that have a worksheet, make the last question on the worksheet an open-ended one so those groups that finish first have a challenging question to work on while others finish. For longer-term lessons, provide short activities, or mini-projects, to keep students involved until all finish. Appropriate mini-projects can entail work on class projects, like a class newspaper. Mini-projects should be educationally-useful and motivating, but not so special that other students rush with their lessons in order to work on the mini-projects. Also include in your weekly schedule some "catch-up times" for groups that need that extra bit of time to finish their work.

A Beginning List of Mini-Projects

Begin these types of projects in your room and students can contribute to them when their group finishes other assigned work.

- group mural
- jigsaw puzzle
- time line
- large crossword puzzle on bulletin board
- bulletin board headed COOPERATION—students make as many words from it as possible

Put these activities on dittos, ready to give to individuals, partners, or small groups.

- math games
- word finds
- brain teasers
- scrambled words

STRUCTURING AND ASSIGNING A COOPERATIVE LESSON

When designing a cooperative lesson, be sure that each student in a group is able to do the work assigned. Nothing hinders a student's willingness to work collaboratively than facing work far beyond his skill level. Next, assign students to heterogeneous groups. Initially, you should create the groups, but later this may be done randomly. On other occasions, you may want to assign students to groups with more intentionality, based on your knowledge of skills in various subject areas or personalities. Assign small groups of two or three students at first. Once students are comfortable with cooperative learning, four or five students can work in a group.

Introduce the activity by telling students that they will work cooperatively. Remind them that this means that there will be one paper or product per group and that each student's information, contribution, and learning will be necessary to the successful completion of the task. Remind students to assist each other in learning the material and that each individual member will be held responsible for that material. Give clear directions. Often it helps to write the directions on the board and have someone copy them for each group. The end-product and the criteria for evaluation should be clearly specified. Move around from group to group as students are working. Help them solve those problems they can't solve themselves.

Strongly encourage students to ask for help from each other when they need it. Repeatedly impress upon them that it's okay to say they don't know or don't understand something. Make this a class norm. Since it is crucial that students receive help when they need it, give all students practice and encouragement in responding to others' requests for help. Be alert for students who may not be getting the help they need from their peers. Helpers are instructed not to do the work for someone else, but to assist each other in learning.

To discourage competition between groups, avoid exclusive use of identical class assignments. When students all work on the same topic, vary the activity slightly, when possible. This is even easier in the kind of classroom where students are working on different activities simultaneously. With such variety, competition is lessened. For example, in a self-contained classroom, post a social studies and a science assignment. Half of the groups do the science and half do social studies on Monday at 11:00. They reverse on Tuesday at 11:00. Such an arrangement often helps cut down noise level as well.

To Set Up a Cooperative Goal Structure

1. Choose specific instructional goals.
2. Select the most appropriate group size for the lesson.
3. Assign heterogeneous groups (remember: heterogeneity is not only defined by academic level).
4. Arrange classroom for "clustered separateness."
5. Prepare materials for lessons, record information about cooperative skills.
6. Explain the cooperative goal structure; present the lesson.
7. Observe student interaction; help solve problems.
8. Evaluate group results in terms of lesson criteria.

For further information, see David and Roger Johnson, *Learning Together and Alone*, Englewood Cliffs, NJ: Prentice-Hall, 1975.

TEACHING COOPERATIVE SKILLS

It is unrealistic to assume that students know how to work together effectively in groups. Therefore, it is important to teach cooperative skills throughout the year.

Begin with easy skills like giving praise or asking for others' ideas. As the year progresses, students can practice more difficult skills such as giving constructive criticism and arbitrating a conflict. Consult *Circles of Learning* and *Guidebook of Cooperative Learning* for examples of many cooperative skills, there called "social skills," and a suggested sequence for teaching them.

When assigning the lesson, present not only an academic goal, but a cooperative skill goal as well. For example, tell students that this week they will practice giving praise. Ask students for examples of what they might say if they like another group member's idea or appreciate something she is doing to help the group. Tell students you will be observing them and will be watching for use of this skill. Indicate you will provide worksheets or checklists for the group to use in evaluating their progress.

PROCESSING

Processing a cooperative activity is as important as planning and implementing it. "Processing" is the asking of questions about what happened. It serves to help students make generalizations about both the process (how they worked together) and the task (the academic project or assignment). By responding to clear processing questions, students reflect on their cooperative group experience. They step out of it to determine, for example, what helped or hindered their group in accomplishing the task.

Leave plenty of time for processing cooperative activities so students can appreciate what they did well, learn from their mistakes, and improve their cooperative skills for the future. Help them generalize and use what they learn from one group session to the next. As a rule of thumb, ask questions about students' feelings and the group process first. Follow those up by questions about the task or content.

Examples of General Processing Questions

Process

1. What were some of your feelings as you did this activity?
2. Did anyone do anything that made you feel especially positive about your group or project? Especially negative? How did the group try to change that?
3. What did group members do to help the group accomplish its goal? What did they do to hinder it?
4. What will you do differently next time you work together?

Content—Listed here are general questions. Make yours more specific according to the content of your lesson.

1. What were the most important ideas that you learned from this lesson?
2. What did you discover that surprised you?
3. What more would you like to learn on this topic?

It's important to process student progress on the cooperative skill they are working on each week. As in the situation cited above, students may be working on giving praise. Each day, give students five minutes to evaluate their success at giving praise either with a short discussion, worksheet, or checklist. At the week's end it's possible to tie effectiveness in giving praise to their group's evaluation.

Draw Learning from Frustration

Below is an abbreviated segment of processing following a lesson in which students bickered among themselves, didn't start right away, and failed to complete the task.

Teacher: How do you feel about what happened today?

Tom: I feel lousy. We didn't finish our assignment.

Juanita: I'm angry. Some people in my group wouldn't get to work.

Teacher: Do others see what happened the same way that Tom and Juanita do?

Jane: I agree. I didn't want to get started because someone took my pencil. That makes me so mad.

LeRoi: I tried to get our group going, but no one would listen to me.

Teacher: OK. It sounds like you had serious problems getting started. Let's think about what you could do differently so we don't repeat this. Jane, what could you have done about your pencil?

Jane: I could have asked for another one.

Teacher: Yes. What else could Jane have done first?

Becky: She could have asked people in her group if anyone took it by mistake. She could have told them how upset she was about it.

Josh: Yes, and then the group could have made an announcement to the whole class. Someone might have it or someone would lend her one.

Teacher: Fine ideas! So let's write this on the board. *If anyone has an individual problem that keeps him or her from being helpful in the group, tell the group. The group can help you solve the problem.* Let's remember that! Now what could you do differently so you get started on your task right away?

Latisha: We could talk seriously to the people who won't get going and tell them how they are hurting our group.

Ralph: We could set a time limit—say three minutes—and one person would keep time. If we aren't busy on the assignment by then, the time-keeper calls time and we then **must** get started.

Teacher: Again, very workable ideas! Let's write these down. . . .

FREQUENCY OF COOPERATIVE LEARNING

How often, you might wonder, do teachers use cooperative learning? Some teachers choose to ease into cooperative learning by first teaching basic cooperative skills for communication and listening, then structuring a few activities cooperatively, building more in as the year progresses. Most begin cooperative activities on the first day of school and teach cooperative skills in conjunction with teaching cooperative lessons.

Most educators intermix cooperative activities with those that are structured competitively and individualistically. The Johnsons suggest that if a teacher matches the optimum goal structure with the learning outcomes they want for students, cooperation will be used 70 percent of the time, competition 10 percent, and individualization 20 percent. Many teachers find this formula appropriate, while others tend to use the three goal structures in more equal proportions.

What Goal Structures When?

Think about what you expect students to learn from an activity. Then refer to the Johnson brothers' *Learning Together and Alone*, or to this chart, to decide which goal structure is most appropriate for your objective.

Use a competitive goal structure if you want students to:

- Reinforce material using simple drill activities
- Review a quantity of work quickly

Appropriate examples: reading games, math fact drills, athletic competition

Use an individualistic goal structure when you want students to:

- Learn specific and concrete information in subject areas
- Learn simple skills such as spelling or use of equipment for science, art, shop, and so forth

Appropriate examples: learning terminology, learning use of a lathe

Use a cooperative goal structure when you want students to:

- Retain and apply factual material or ideas
- Understand and internalize concepts and principles
- Solve problems and build creativity
- Develop verbal ability
- Increase role-taking ability

Appropriate examples: solving a scientific problem, comparing one culture to another, using rules of grammar to write a composition, understanding how another person's perspective is the same or different from their own

Adapted from David and Roger Johnson, *Learning Together and Alone*.

Some educators structure their entire educational program cooperatively. For example, Daniel Fader, author of *Hooked on Books*, ranked his students according to their reading preparedness. He formed triads composed of students of high, medium, and low reading levels, and made a nonnegotiable rule that the triad was responsible for learning together. He provided structure, methods and opportunities for learning in this triad. This totally-cooperative structure resulted in significant progress for all. The choice, of course, is yours regarding the extent of cooperative learning you incorporate into your class.

Remember also that students can work cooperatively in partners or small groups even if the whole class isn't doing so. Encourage students to read to each other or help each other with difficult assignments. For teachers who teach in a self-contained classroom, set up a cooperative game corner. Once students have learned to play some cooperative board games, they can use that space to play together quietly. Maybe once a week upper-elementary students can go to the library to read books to first graders. Cooperative learning takes many forms!

Cooperative projects also build positive interdependence among teachers. Plans can range from monthly potluck suppers for personal sharing to teacher-initiated and implemented projects for the school. For example, teachers from a number of classes might work together to organize a monthly video show for the school. Students in each participating class take a segment to produce and then the entire show is played for the school. In this case, teacher cooperation then involves the students.

TEACHER SUPPORT

Encourage several teachers from your school or district to develop cooperative learning in their classrooms as you are doing this. In this way, you and other teachers can work cooperatively to share experiences and solve problems. A monthly after-school support group is an ideal format for such sharing. Not only will you get new ideas and advice, you'll be experiencing the very cooperation you want for your students.

The How To's of Cooperative Learning

Cooperative Learning. Cooperative Lives provides learning activities for classroom use. There are a number of fine resources that focus exclusively on the process of structuring learning cooperatively. Order these for your own professional library or for your school and refer to them often!

Learning Together and Alone, David and Roger Johnson.

Circles of Learning, David and Roger Johnson, Edythe Holubec, Patricia Roy.

Cooperative Learning—Resources for Teachers, Spencer Kagan.

A Guidebook for Cooperative Learning: A Technique for Creating More Effective Schools, Dee Dishon and Pat Wilson O'Leary.

Using Student Team Learning, Robert Slavin.

Jigsaw Classroom, Elliot Aronson, *et al.*

POTENTIAL PROBLEMS AND SOLUTIONS

GETTING STUDENTS USED TO COOPERATIVE LEARNING

It's difficult for some students to get used to working in cooperative groups. This may be the case for your students. If so, assign a short, well-defined task with a clear goal. Give them a fixed amount of time—for example, say, "In twenty minutes, I expect you to turn in your papers." Take a serious attitude. Tell them, for example, that their group work must be done before they move on to a new task.

You can begin cooperative learning by setting up small groups with whom you work periodically. In these groups, students can learn cooperative skills under your supervision, or you might find it helpful to begin with a task in which students work on an individual project that is then combined with the work of others to create a cooperative project. For example, each student makes a block print that represents herself. Students bring in T-shirts and block their print on each others' shirts—creating cooperative T-shirts for all.

Don't get discouraged if students find cooperative groups difficult at first. Remember that learning to work cooperatively involves the gradual development of skills and concepts.

DEALING WITH HETEROGENEITY

In heterogeneity is strength! In mixed groups, students have the chance to learn from others with diverse life experiences, perspectives, and skills. Heterogeneity is basic to cooperative learning. At the same time, it's important that you structure heterogeneous groups in such a way that everybody learns!

It is a reality that students have different levels and types of ability and skills. Often in classrooms, teachers avoid talking about differences, but students know well that they exist. In a cooperative classroom, talk honestly about these differences so they are neither a cause for shame nor conceit. Help students pinpoint and avoid a "blaming-the-victim" mentality—that is, it's slow learners' fault that they learn at a different pace. Rather, encourage objectivity and support.

There are things both you and your students can do to help heterogeneous groups work well. Assign group tasks that call for different kinds of abilities. For example, a group project might need reading, research, writing, art work and interviewing. Be sure, however, not to put an academically-unskilled student who is good in art with a high achiever who is also good in art. In that case, the former student's skill will not be unique. In such a multi-faceted task, a student who might not be strong in art may be a good researcher, and so forth. If many different abilities and skills are needed, all students can use their competencies. Assign tasks with different levels or amounts of work. In reading, for example, assignments might look similar, but the reading levels would be different. It is crucial to provide material that students **can** handle. Students may prefer to work individually on a task before they begin interacting cooperatively. This often bolsters confidence. In assigning groups, it is usually wise to disperse students with the most serious learning problems and group them with students who will be supportive helpers.

Students, too, can make heterogeneity work. After you've taught them skills and strategies for effective peer tutoring, they become wonderful resources for each other. Once they learn cooperative skills and become more aware of their group process and more able to modify it, they will take more and more responsibility for seeing that heterogeneous groups function effectively. In nonjudgmental, cooperative classrooms, slower students learn to ask for help and to give it as they are able.

Elliot Aronson's "counterpart groups" or Robert Slavin's "expert groups" are options to add to the jigsaw approach to cooperative learning. In this case, each jigsaw group studies the same material. After each group has been assigned work, the teacher temporarily regroups students who are responsible for the same piece of information into counterpart groups to study together. When regular jigsaw groups are reconstituted even the student with more limited skills has confidence that she knows the information and can teach it.

What about the effects of heterogeneous groups on the student who learns rapidly? As noted above, with well-designed cooperative activities, the fast learner will do challenging work at her level. Even in activities that involve peer teaching, experience and research show that advanced students gain both socially and academically.

High Achievers and Cooperative Learning

A research team headed by Ronald Lippitt studied several peer teaching programs and found that tutor and pupil are helped by peer teaching. Tutors show improved attitudes and interest in school, increased ability to work cooperatively with other children, increased self respect and belief in their own ability. Both tutors and pupils showed academic gains.

Reported by Elliot Aronson, *The Jigsaw Classroom*.
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As teachers we know that we continually learn more about the topics we teach in the process of teaching others. . . . There is no evidence that the experience of tutoring is detrimental to learning. On the contrary: studies of peer tutoring reveal substantial gains for tutors. In cooperative learning the high achievers gain as much or more than high achievers in traditional classrooms.

Spencer Kagan,
Cooperative Learning: Resources for Teachers.

> High achieving students working in heterogeneous learning groups score higher on retention tests than do high achievers who participate in competitive or individualistic learning situations. The quality of reasoning strategies used by the high achievers was higher when they were in cooperative learning situations. . . . While bright students are often resented and sometimes ostracized in a competitive setting, they are seen as desirable partners in a cooperative setting.
>
> David and Roger Johnson, Edythe Holubec, Patricia Roy, *Circles of Learning*.

KEEPING ADVANCED STUDENTS CHALLENGED

A cooperative classroom can provide the setting for challenging advanced students more effectively than can a traditional classroom. For example, by having heterogeneous spelling or math fact groups with a range of work to be mastered, the students who learn more quickly are challenged to help others learn simpler content as well as to learn the more difficult content themselves. By having heterogeneous groups researching information on a specific topic, the more advanced students are challenged to use more difficult and more complex research materials and then to share this information with their groups.

Cooperative learning does promote the academic achievement of faster learners. You can also use particular strategies to assure yourself that these students are indeed being challenged. As noted earlier, a well-planned cooperative activity—especially with the jigsaw format—can include segments geared for advanced students at their level of ability. Similarly in a contract-grading system (see pages 509–511), advanced students complete more difficult work in order to receive the grade for which they contracted. Consider setting up an in-class or cross-grade peer-tutoring program where advanced students are assigned coordinating and organizing responsibilities. Since faster students aren't always high achievers in every area, provide group projects in which these students are assigned tasks where they aren't most advanced. For example, give a creative writing segment of a project to the math whiz and a data-gathering and statistical segment to a verbal pupil. In all these ways, fast learners can gain the experience of learning together cooperatively and, at the same time, be challenged and motivated.

HELPING STUDENTS HELP EACH OTHER

Students don't come into your classroom automatically knowing how to help each other learn. As previously noted, they need to be taught skills for helping. Provide role plays where students can practice teaching, and being taught, cooperative skills. From this, they can generate guidelines for helpful and not-so-helpful forms of tutoring. For example, they might discover that hurriedly telling someone an answer is not a good way to nurture learning. Activities in Chapters 3 and 4 provide ideas for teaching these helping skills.

Sometimes students are overeager to help. Therefore it's useful to have a class discussion about how to ask for help and how to decline when help is not wanted. Students can practice phrases like, "If you'd like help, I'd be happy to give it to you, but if you don't I won't be offended. If you decide later you want help, just let me know."

The strategy of "specialist" is a creative one for dealing with heterogeneity and for building helping skills. In a given cooperative activity, each student is assigned to be a specialist in an area of his competence. For example, in a language arts activity, one might be a specialist on punctuation, another capitalization, another verb agreement and so forth. As students write papers or stories, they consult the specialist when in doubt about a particular area. The papers are cooperatively proofread, with each specialist checking for his area of expertise. In this way students are on equal footing, assisting each other in a cooperative activity.

Helpful Guidelines

1. Everyone is responsible for self.
2. Everyone is responsible for everyone else in group.
3. Teacher is responsible to help if everyone in group has hands raised. This means no one in group can offer the help and they no longer want to try to figure it out themselves.
4. Group members cannot write on anyone else's papers when explaining.
5. No one can tell answers to anyone.

DEVELOPING SHARED GROUP LEADERSHIP

How often teachers watch one student take over a group! The structure of cooperative learning, especially the jigsaw method, helps avoid this. In addition, there are other strategies (many of which are included in Chapters 3 and 4) to encourage equal participation in cooperative groups.

Teaching cooperative skills and careful processing of cooperative activities help students pinpoint and change domineering or withdrawn behavior. When students answer a processing question, like "To what extent did people participate equally?," they must discuss levels of involvement, and can pinpoint behavior changes in preparation for the next time they work together. After they learn I-messages—a statement about how another person's behavior makes them feel—they can give direct feedback to the "boss." (See pages 166-167.) Verbalizing about successful group behavior helps them apply those behaviors to other situations.

The token method is also effective. All students are given an equal number of tokens (for example, ten) for a cooperative activity. Each time a student speaks, she uses a token. Once a student's tokens are gone, she can't speak any more. This makes students judicious regarding the frequency of their verbalization and the value of their contribution.

Try assigning students function-roles during a cooperative activity. For example, in one group each student takes one of the following roles—an organizer, clarifier, peacekeeper, recorder, and includer. Consciously assign roles in which students need practice and can carry out successfully. For example, give an overly domineering student a more process-oriented role, such as includer—one who invites others' participation in the task. Taking on roles provides students a structured opportunity to try new behaviors. To reinforce student commitment, grade cooperative groups **both** on content—how well they accomplished the task, and process—how well they worked together. Methods for doing that are discussed later in this chapter.

Task-Oriented Group Roles

Fifth grade teacher Mary Travis had particular success with assigning students the very practical task-oriented roles suggested by the Johnsons.

Checker—Checks to make sure everyone else in the group knows how to get the correct answer.

Observer—Checks students on cooperative skill being practiced.

Reader—Reads the assignment, task, or problem to the group.

Recorder—Records the group's answers to be handed in.

DEALING WITH NAME-CALLING

Power Dynamics and Name-Calling

Name-calling hides a whole complex of feelings. If expressed they would put the name caller in a vulnerable position . . . the worst place to be in a competitive society where there are two positions, one-up and one-down. An insult places you one-up. . . . (Admitting feelings of anxiety or jealousy would make a person feel vulnerable.) In a world of one-up one-down, this would be risky. . . .

Jason goes to school to complete work for a test tomorrow. Sara has the Civil War battles mixed up. "You dingbat," Jason says. . . . "I am not, you creep. . . ." The squabble is on. Name-calling relieved Jason's impatience but not the anxiety about the test tomorrow. . . . (The teacher intervenes.) "I bet you were worried about the test tomorrow. But did teasing Sara straighten things out?" The teacher converted a win-lose situation into one where it's safe to share feelings of vulnerability.

Elliot Aronson, *Jigsaw Classroom*
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Trust, respect, and a willingness to admit you don't know are essential ingredients of a cooperative classroom. Name-calling undermines all three. Therefore, it's essential to set a nonnegotiable norm: no put-downs. Plan affirmation activities so students develop strong positive self-concepts. Use activities in which students find those things they have in common. The more like others they feel, the harder it is to put them down. It is very important, of course, for you to treat students with respect and understanding thus creating classroom climate that is affirming and positive.

Students often resort to name-calling because of their own feelings of inferiority and anxiety and because of peer pressure. Other reasons for name-calling include: societal pressure, role modeling by adults, attempts to be "cool," and attempts to establish identity. While name-calling is one of the most difficult things for a teacher to deal with, there are some approaches that help. Work with name callers so they feel more secure and less afraid, decreasing their need to name-call. Role-play alternatives to name-calling. For example, when faced with a troublesome situation, students can learn to say, "We have a problem, what are we going to do about it?" As a teacher, work with the feelings that underlie name-calling.

Cultural Norms and Put-Downs

Some children may say that, in their culture, put-downs are considered funny and cool. You may want to use this as an opportunity to encourage students to explore their own cultural norms and values and to think about whether there are some which they don't want to keep. You can explore the idea that one can be proud of one's ethnic heritage but still choose to give up a particular piece of it which is not productive. That does not mean rejecting one's background, but simply understanding that all cultures have developed over time and some patterns, which at one point may have been useful, are no longer good for us.

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CONCENTRATION ON TASK

While cooperative activities are conducive to keeping students on task, there are additional things you can do to encourage concentration. Make time limits clear for a particular assignment. If an activity has different parts, intervene to indicate the end of certain sections. For example, "The three minutes for brainstorming are over. Move on to making your list." Structure large projects into parts, and have students sign as they get each section done.

INTERPERSONAL PROBLEMS AMONG STUDENTS

Student behavior problems have the potential for disrupting cooperative groups. Chapters 3 and 4 are filled with lessons that help students develop skills for understanding and dealing with these problems. In many cases, these skills enable group members, with your support, to take responsibility for working out these problems in their groups.

Sometimes other measures are appropriate. Mary Travis, fifth grade teacher in Arlington, New York, has set up a procedure that keeps an interpersonal conflict between two students from disrupting the whole group. She sets a norm that the back table is the place where two students who are in conflict go to work it out. She asks those students to go to the back table, talk about what's bothering them, try to resolve the problem, and return to their group in five minutes. She intervenes only as necessary.

Another potential problem is the shy student or the overly-aggressive student. These students sometimes don't want to work in a cooperative group. Often if you let that student sit out, he will be eager to participate constructively next time because everyone else was so energized and so involved. On occasion, a student is too destructive to be assigned to a group. Have that student work with you on a special project. Present the opportunity of joining a cooperative group as a privilege to be earned. With your support and with well-planned independent work, such a student often makes gains rather quickly and can join the group.

Other students can take responsibility for the withdrawn student. Eric Perlberg, a teacher in Accord, New York, approaches another group member this way. "John, it's part of your job as a group member to get Laverne to participate. Now let's think about how you could do it." When group members get angry at a student for withdrawing or goofing off, Mr. Perlberg helps them redirect their anger by telling the person how they feel. For example, a productive student said to another, "Sue, this is part of your job as a group member and we have to accomplish it together." Soon students take more of this responsibility on their own.

A NEW STUDENT

As the year progresses, cohesion is strong in a cooperative class. Procedures and norms have been developed that are unknown to a new student who joins in mid-year. Have your students develop creative tasks that acquaint a new student with cooperative procedures. Some of your students undoubtedly like to befriend new students. Encourage them to take on that responsibility. Find out what the new student is particularly good at or interested in. Develop a few activities that focus on those strengths, helping the student feel competent and needed.

NOISE

Noise in a cooperative classroom is usually the sign of active learning. At the same time, a classroom can sometimes get too noisy for your students or for those in neighboring classrooms. Explain to the teachers next door what you're doing and invite them to contact you if it gets too noisy. To deal with noise, use a signal to quiet students down. Play a few notes on a harmonica or flip the light switch. (When things really get desperate, let loose a barking dog!) Ask one person in each group to be responsible for keeping the noise level down, or include this as part of process evaluation. Whenever possible, have only some of the students work in cooperative groups at a given time, and others work individually. Students working individually can often go to the

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library. Use process intervention. For example, in the middle of a group project interrupt work **briefly** to ask each student this question: "How necessary to the successful completion of the task is your group's noise level?" Each person checks off a spot on a continuum.

---

1 2 3 4 5 6 7 8 9 10

noise level very necessary — noise level not necessary

Group members discuss responses for two or three minutes and then move right back into the task. Have your class work cooperatively to cut down on noise. Make a large noise barometer out of poster board. The class sets a goal and tries to keep the noise level at or below that point for the week. This becomes a cooperative challenge!

EVALUATION

Evaluation of student learning is essential to any teaching approach. What, you may ask, are the most effective ways to evaluate cooperative learning?

For many teachers cooperative lessons will be only part of a teaching approach that also includes competitive activities and tasks oriented to the individual student. Each type of activity should be evaluated differently and each evaluation recorded. At report card time, all results are combined for an overall average. Thus, evaluation of cooperative projects would be only part of an individual mark on a report card.

In accurately evaluating student learning, be sure to evaluate the way **you** have structured your class for cooperative learning. In *Learning Together and Alone*, the Johnsons provide observation forms for teachers to check their classrooms. In addition, student-perception questionnaires can give accurate feedback indicating how well you have communicated the concepts and process of cooperative learning to students.

Sample Questions for a Student-Perception Questionnaire

On this assignment we were supposed to:

_____ a. Work with others to create a group product.

_____ b. Work independently to create individual products, without paying any attention to other students.

_____ c. Work independently to create individual products better than anyone else's.

Check one:

_____ a. I am happy when the teacher praises the work of one person in my group since it means we are all doing well.

_____ b. It makes no difference to me one way or the other when the teacher praises the work of someone else, since this is irrelevant to my own accomplishment.

_____ c. I am unhappy when the teacher praises the work of another student because it must mean that my work is inferior.

Adapted from *Learning Together and Alone*.

First a word about grades. . . . Grades are used in American education both as incentives for students to learn and as ways to measure that learning. While most teachers must give grades, it is important to note that there are alternatives to grades, both as incentives and as evaluation tools.

Cooperative learning means that there is both a cooperative task and a cooperative **incentive** to work together to learn. Lessons in *Cooperative Learning, Cooperative Lives* contain activities in which students work together to accomplish a shared goal. Also, there are cooperative incentives that encourage students to work together to learn and to be accountable for each other's progress. Grades are the most common incentives used in schools. You may use grades for incentives and choose one of the evaluation formats described in the Resource section of this book. Other incentives include exciting material and the feeling of mastery in learning. Incentives in cooperative learning also take other forms: the desire to help others learn and the concern for their progress, the satisfaction of being part of an effective group, and the feeling of competence in helping others learn. Activities in *Cooperative Learning, Cooperative Lives* include skill training for students so that they develop the competencies for such effective group interaction. Rewards in cooperative learning can be grades, but also successful group products, the learning itself, the positive experience of cooperating, competence in helping, appreciation at being helped, and peer approval. The content and methods used in lessons in *Cooperative Learning, Cooperative Lives*, are designed to stimulate students' motivation to learn. The positive value placed on cooperation contributes to increased student incentive to help each other learn. An ultimate goal of this approach is that a cooperative goal structure could become unnecessary. Students would develop the intrinsic desire and practical skills to be accountable for both their and others' learning.

Evaluation of student learning can be accomplished in a variety of ways. Informal methods are often useful. If cognitive objectives for lessons are clear, for example, teachers can evaluate much through observation. The Johnsons provide useful checklists to help you with this type of evaluation. Students themselves can evaluate their progress. For example, one of the authors had students tape-record their reading. Group members practiced together and later re-taped their reading. By using the pre- and post-tape, they assessed their own progress. Students can set group goals and attempt to improve their own record. For example, if they have been studying spelling as a group, when ready for evaluation, members take turns spelling words. They count the number of words spelled correctly before any word is spelled incorrectly. This is their record. They work to improve that on the next spelling assignment.

More Student-Student Evaluation

In Spencer Kagan's model of cooperative learning, Co-op Co-op, evaluation is made at three levels: (1) Teammates evaluate individual mini-topic presentations; (2) Classmates evaluate team presentations; and (3) The teacher evaluates individual mini-topic papers or projects. Students participate in the construction of evaluation forms; they are evaluating the extent to which individuals and teams helped the class in reaching its learning goals.

Cooperative Learning: Resources for Teachers

More formal methods of evaluation are often needed, especially when cooperative-learning activities must be graded. The Resource section of this book outlines a variety of evaluation formats that can be used to evaluate student learning and, when desired, assign grades. These evaluation formats are only some of many possibilities. The first set, **Content Formats,** describes alternatives for assessing cognitive learning — subject matter material. The second set, **Process Formats,** provides methods for evaluating the way students work together. If we value cooperative skills and want students to work hard on these, we will want to evaluate the process of student interaction. In situations where grades are important to students, the knowledge that their interaction as a group will be graded is a very positive incentive for effective group work. Once students become used to both kinds of evaluation, they understand that a learning activity can be graded both for content and process and the average taken as the overall group grade. Both advantages and disadvantages of each evaluation format are described. This enables you to determine which is best for a particular lesson, class, or time of the year.

And the Next Year

Children who spent a year in a jigsaw classroom where cooperation was the dominant mode of interaction performed as well as ever when moved next year to a classroom where competition dominated.

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CONTENT FORMATS

Different forms of evaluation serve various educational goals and needs of students. The Resource section includes descriptions and examples of three categories of content-evaluation formats. When utilizing the first, "Group Project-Group Grade," each student receives the grade of the group. It is very important when using this evaluation format that a mechanism for positive interdependence be structured into the test; otherwise, one student will do the work and others get credit. For example a teacher would have structured tasks for all students into the lesson or taught enough cooperative skills to make students accountable for involving everyone and helping everyone learn the material. Process evaluations, discussed below better guarantee participation by all students.

The second category of content formats, "Contract Grading," includes formats through which students receive grades according to the amount of work their group completes. Within the group, students can do work at different levels or in varying amounts. These formats are particularly useful for projects or learning centers.

The last category provides the greatest accountability of students for each other's learning. Formats providing "Individual Accountability for the Group Result" build in strong incentives for each group member to make sure that all others know the material. One example is "Group Average," in which each individual's grade is averaged into a group grade. Each individual receives the grade of the group. Such formats are useful for careful assessment of the learning of specific content material and of individual students.

Student Opinion of Group Grade

Fifth graders in Mary Travis's cooperative classroom like the group grade very much—as early as November of the school year. They very much enjoy helping each other and seeing their effort reflected in a grade.

In choosing a format to evaluate content-learning, consider the amount of academic pressure generated by peer accountability. For example, when students work together on a project and are evaluated as a group, accountability for each other's learning is limited, but the level of threat is also low. This format might be appropriate in a heterogeneous group with one or more low-skilled students who want to learn but become blocked by pressure. In a situation involving students of more or less equal skills, for whom academic pressure is not a deterent, a format necessitating a high level of accountability, that generates strong peer pressure to learn the material, might be appropriate. An example is the "Lowest Grade Format." Students work together to learn common material. The grade of all individuals in the group is the lowest grade received by any member on an individual quiz.

The degree of motivation students have to help each other is another consideration in choosing an evaluation format. If such motivation is needed, a group can work together on a task knowing that the group will be evaluated on the basis of the learning of one member, chosen at random by the teacher. This means that students must make sure everyone understands the lesson well. It encourages students to ask for clarification or help when they don't understand.

The span of student ability level is another factor to consider in the choice of evaluation format. If there is a wide range of abilities in a group, a contract-grading format would be appropriate. Students work on a group project but, within it, on individualized or "partnered" tasks. The students are evaluated as a group. In this case, use of diverse ability-levels in the improvement score system would be helpful. Consult the Resources section for details on all methods.

Creative Learning Activities: A Key to Student Motivation

Student motivation depends, in large measure, on how the content is presented and on the degree to which it respects student skill level. Grades motivate some students, but your creativity in presenting material is of prime importance to all students!

PROCESS FORMATS

The Resources section of this book also contains descriptions and examples of three categories of process formats. These are for evaluating, and, when desired, grading student progress on particular cooperative skills important for effective group process. As with content formats, the choice of process formats requires consideration of the variables.

In the first category, "Process Observer," are formats that use a student observer's notes of member behavior to evaluate group improvement on a designated cooperative skill. Student observers gain skills at watching for particular behaviors that help or hinder the group. The observer watches the process rather than participating in it. These formats are particularly useful at the beginning of the year when students are first becoming conscious of group process and are learning to pinpoint particular cooperative skills.

The second category, "Teacher Assessment," includes a format for teacher evaluation of improvement in cooperative skills. This is especially appropriate in classes where students have not yet learned to be objective and fair when observing others' behavior.

The final category of process formats, "Student Self-Assessment," provides methods for the students to assume responsibility for pinpointing and evaluating progress on specific cooperative skills in other group members or in themselves. Here, students develop the not-so-simple skill of participating in a group task and watching for

cooperative skills at the same time. These formats are most useful at that point in the school year when students have become skilled at identifying particular cooperative skills. These formats have the advantage of giving students responsibility for choosing skills to work on and for building confidence and changing behavior.

Thus, all methods are similar in that students are evaluated as a group, but the choice of format will vary greatly depending on the needs of your class and on your goals for cognitive and affective learning.

Such are the "nuts and bolts" of cooperatively-structured learning! While this approach may seem complex at first, it becomes surprisingly comfortable for most teachers once they try it. The activities in the remainder of the book contain a carefully-sequenced series of activities. These are the resources which help make cooperative learning successful for you and your students.

RESEARCH DIRECTIONS: STARTING WITH ORAL LANGUAGE

ELFRIEDA H. HIEBERT

As a new editorship of *Language Arts* gets underway, the beginning seems a very good place to start. And, in becoming literate, oral language is the beginning—and the middle and the end. David, a kindergartner, helps us understand a great deal about occasions for oral language use in school. During his first few months of school, David had few opportunities for handling books, pens, or chalk. He complained, "The teacher gets to play with all the good things, and we don't." When his mother asked why that might be, David thought for a moment and then replied, "Because she doesn't want to share her things." A similar observation might be made by other children, even those much older than this kindergartner, about occasions for sharing classroom talk. The label given to a common language pattern in classrooms—test questions—tells the story. Teachers ask questions to which they clearly have the answers. Children give the answers that they know the teacher knows.

But times, as Dylan sang, "are a changin'." The last decade has produced a treasure chest of articles on the social interactional perspective of literacy acquisition (Britton, 1985; Cook-Gumperz, 1986). One of the focal studies of this review, research by Fisher and Hiebert (in press), shows that social interaction has increased considerably in many classrooms as teachers have adopted this philosophy in thinking about literacy learning. A second study (O'Flahavan, 1989) illustrates what can happen when teachers are guided in changing formats of reading discussions. Before describing these studies, the notion of social interaction as a means for becoming literate is reviewed.

Social Interaction as The Means For Learning

Influenced strongly by the work of Vygotksy (1962), educators have emphasized the construction of meaning through talk. As students share their interpretations of a story and as they listen to the interpretations of others, they restructure views. Research on peer tutoring shows that the need to present one's ideas in the role of tutor requires a restructuring of knowledge that enhances learning. The tutee typically acquires more than in traditional learning contexts, but often the gain for the peer tutor is relatively more than that for the tutee (Allen, 1976). The social interactional position has a theoretically sound explanation for this phenomenon: the "teacher" needs to restructure information to communicate. Programs such as Reciprocal Teaching have applied this idea by making "every child a teacher" at one point or another in a series of lessons (Palincsar & Brown, 1986). Substantive talk (rather than idle chatter) is not a frill; it is a primary means for becoming literate.

The view of social interaction as a means for becoming literate means a more incisive role for teachers, not a lesser role. Teachers become listeners as children express their thoughts, but teachers also spur on children's thinking about reading and writing through questioning and discussion. Contexts where peers interact without the teacher are also important, but here, too, the teacher has a critical role. To make the best of discussions with peers and/or teacher, children often need guidance in how to go about talking about what they have read (or "talking about talking about reading and writing"). Teachers provide guidance as they model and highlight what works in discussions.

Social Interaction as Part of Literacy Periods

Children's social interaction in the classrooms that Heap (1985) and Wells (1986) described was often meager. But since the early to mid-1980's when those projects were completed, changes

can be seen in literacy activities in many classrooms. Reading material is more authentic, peer interaction contexts have increased, and lockstep ability grouping has finally given way to more flexible grouping plans. In some cases these changes may represent a simple substitution of one activity for another, but in most cases they reflect movement in the thinking of teachers about how children learn best.

Fisher and Hiebert (in press) were interested in the kinds of social interaction afforded students as a function of instructional approach. Had changes in teachers' philosophy created different contexts for social interaction in literature-based classrooms than in skills-oriented classrooms? One week's experiences in each of eight classrooms, half of them literature-based and half skills-oriented, were videotaped. Within each group, second- and sixth-grade classes were evenly represented. The videotapes and observers' notes were studied to answer the question about change in learning contexts.

Substantive talk is . . . not a frill; it is a primary means for becoming literate.

The resounding answer was yes! Children in literature-based classes read and wrote more than their peers in skills-oriented classes. In literature-based classes, these reading and writing occasions were interspersed with talk among teacher and peers about what was to be read or written or what had been read or written. Approximately a quarter of the literacy time in literature-based classrooms was devoted to oral language activities. A fairly consistent activity in literature-based classrooms was teacher-led discussion about what was to be read or written. In one such lesson on author's mood in a sixth-grade class, the teacher began by reading aloud to the children a very poignant passage from a book she was currently reading. The passage served as a prompt for a discussion on creation of mood in writing. Children read independently after the discussion, attending especially to ways in which their authors established different moods.

Occasions for structuring and restructuring understandings through talk were also abundant after, not just before, students read and wrote. After they read, the sixth-grade students talked with peers about how their authors created mood and then applied these understandings in their own writing. Sometimes, students took turns leading the discussion of the whole group, while at other times students met in small groups.

In skills-oriented classrooms, participation in community events that foster such structuring and restructuring of knowledge was infrequent. Class time was consumed with "work," much of which consisted of worksheets. Occasions for talking about knowledge of the topic before reading or writing were rare. Talk before tasks consisted primarily of directions from the teacher on how to perform tasks. Times for restructuring ideas with others after reading or writing occurred very infrequently. When oral interaction followed reading and writing, it typically took the form of evaluation of "right" and "wrong" answers, not discussion of "what did you think?" Based on the different underlying philosophies, these two types of classrooms manifested what one would expect—substantially different social contexts for the structuring and restructuring of knowledge.

Many teachers may not have had the training to create classroom contexts that foster talk, since this view is quite different from the one stressed in teacher education programs even a few years ago. Several recent projects aim to provide teachers with experiences so that they can restructure their understandings of how children learn. More and more teachers are becoming familiar with Reciprocal Teaching where students learn in discussions specific comprehension processes such as predicting before reading and summarizing after reading (Palincsar & Brown, 1986). Students require extensive guidance and modeling to apply the strategies of Reciprocal Teaching or similar strategies in discussions. The overall aim of such guidance, of course, is for children to discuss what they have read or to engage in "talking about reading." However, if students are to take part in high-level discussions, they benefit from feedback about their interactions through "talking about talking about reading." Teachers can interject in discussions such comments as "Nancy responded to your questions about her answer very clearly by reading her verification from the text." Another possibility is to devote specific parts of lessons to "talking about talking about reading." Such an approach was

taken by O'Flahavan (1989). Interest in peer discussions has been spurred on by cooperative learning. However, as Meloth and Deering (1989) show, interaction done in the name of cooperative learning can often deviate far from the intended focus. O'Flahavan reasoned that young children such as the second graders in his project needed to develop appropriate group process strategies if they were to productively discuss interpretations of text with one another.

To examine this question, O'Flahavan compared students' interactions about literature in a traditional teacher-led discussion format with those in a peer discussion structure. In the peer sessions second-grade children became responsible for "talking about talking about reading." Sessions began and ended with a focus on the discussion itself. Teachers guided this part of the discussion where social strategies (e.g., "one at a time") or content strategies (e.g., "use the text to justify your ideas") that might help interactions were identified.

An urgent need exists to move beyond "the bubble" (i.e., multiple-choice tests) in assessing literacy growth.

These focal strategies (e.g., "one at a time") were repeated in a brief teacher-led warm-up at the beginning of the next session. After that, the teacher either moved to the periphery of the group or to work with other children, but within earshot of the group. The group began discussing the story. Questions that came from the teacher encouraged movement in children's knowledge, beginning with prior knowledge. For example, after reading *Stone Soup*, a discussion began with the question "How do you feel about someone who has a habit of tricking people in order to get what they want?" When discussion on the background knowledge question had run its course, the group moved to a question having to do directly with the text (e.g., "Did the soldiers teach the townspeople something?"). Finally, the last question moved children "beyond the text," requiring them to apply their story knowledge to other settings (e.g., "Are there times when it is okay to use tricks in order to get what you want?").

Effects of Social Interaction on Literacy Learning

The inevitable question "what difference does it make?" is raised whenever educational practices change. As well as showing variations in social interaction contexts, the two types of classrooms in Fisher and Hiebert's study differed considerably in the cognitive complexity of tasks and the amount of autonomy students had in "shaping" tasks. In literature-based classrooms students engaged in more cognitively complex tasks and had greater latitude in devising tasks. For instance, students in literature-based classrooms could pick topics and genres for their writing, whereas students in skills-oriented classrooms were given storystarters that prescribed the content and structure of compositions.

The long-term effects of engaging in cognitively complex tasks with at least a moderate amount of autonomy have not been established, nor have such dimensions been of interest in conventional evaluations of school programs. For example, studies have rarely yielded insight into whether children can express interpretations of a text in discussions. Such an ability is important, however, because conveying ideas in conversations is an significant task in the world beyond the classroom.

Information from alternative assessments is beginning to surface. O'Flahavan, for instance, studied transcripts of discussions from his project. Children's interactions in groups that included "talking about talking about reading" changed substantially over the course of the project. Their counterparts in the control group (i.e., those involved in teacher-led discussion that was dominated by test questions) continued to express their ideas about passages in a literal fashion. Interactions of children in the control group did not change over the course of the project. Their participation at the end of the project was similar to that of children in the peer groups at the beginning of the project. The level of interaction before or without a shift in group structure is illustrated in the following episode:

T: How did they get him to the party? (Students raise their hands.) Tiffany?
C6: Alberto went over and talked to him and said that the party was over at my house.
T: Did he tell him that the party was at his house?
C6: (shakes head no)
T: What did he say to him?
C6: He said . . .

T: How did he get him over to his house?
C4: Call. He told him it was going to be at his house.

The comments of the same children, after several months in the project, demonstrate the shifts in their interaction about text:

C8: You don't go up there and say, "Be my friend," like that.
C4: No, I say that when you get in there, you go up to somebody and just say it, and not, I be smart enough about it to go up to them and say it.
C8 :Like—
C4: I just can't, like this—
C8: You—
C4: I just can't go up to one of them and say something, and say, "Be my friend," or something like that.
C8: I know.
C1: That's my point. That's my point. It takes time. It takes time. It takes time.
C4: I know it takes time but that's just it.
C1: You got to get used to those people and you get lonely, you could just go up there and ask them.
C4: If I get used to them I ask 'em then.
C1: Let's use an example. If you're shy and you're in first grade—were you shy?
C4: I told you I was.
C1: And did you make friends with those kids?
C4: A long time ago, I mean it took a long time, not the first day I came.
C1: See, I said it takes time.

Children may well have been capable of making comments such as these prior to the project but merely lacked chances to share their competence. Without guidance from teachers on *how* to interact, however, discussions among peers frequently disintegrate (see, e.g., Meloth & Deering, 1989). Assistance in creating the contexts of interaction gave children the chance to express with their peers sophisticated ideas about text, such as drawing attention to familiar occasions that match those of story characters (e.g., the similarity of the character's feelings to those children had felt when they were first-graders).

The differences in these conversations are striking. In addition to shifts in dialogue, O'Flahavan examined social, affective, and intellectual outcomes through a variety of measures. Effects on children's social and affective perceptions were the most pronounced. Children who participated in groups with guidance on *how* to interact changed in perceptions of their roles in discussions. An analysis of retellings showed no dramatic differences in content or sequential accuracy as a result of participating in either teacher-led or peer discussion settings. However, the retellings provided by children in the peer groups included larger proportions of central narrative content than did those of their counterparts in teacher-led discussions.

An urgent need exists to move beyond "the bubble" (i.e., multiple-choice tests) in assessing literacy growth. Children who participate in classes that foster social interaction as a means of learning appear to be acquiring a host of important literacy and language proficiencies. Studies like Rowe's (1989) examination of literacy development in a preschool and Colt's (1989) study of the writing development of second graders provide further evidence of substantial shifts in children's thinking about reading and writing as a result of increased social interaction. Children in these classrooms also appear able to comprehend a variety of genres, including the rather unique genres of tests. In the classrooms studied by Fisher and Hiebert, comprehension test scores of literature-based students were slightly higher than the scores of peers who spent inordinate amounts of time participating in test-like tasks in skills-oriented classes (Hagerty, Hiebert, & Owens, 1989). In addition, the shift in learning contexts in literature-based classrooms was also evident in outcomes such as the number and quality of books authored by students.

Social Interaction as the Means for Integrating Learning Across the Curriculum

Social interaction is a means of learning that extends to all domains, not just literacy. Since narrative text parallels children's experiences more closely than expository material, occasions for social interaction often begin with stories. However, as teachers and children become more familiar and adept with different ways of interacting, these interaction modes can be extended to science, social studies, and mathematics. Fisher and Hiebert (1990) extended their examination of the learning in literature-based and skills-oriented classrooms to content area periods. The opportunities for social interaction that characterized literacy times in the literature-based classes also occurred with science and social studies content. During mathematics periods, however, opportunities for talk and the nature of tasks in literature-based classrooms were indistinguishable from those of skills-oriented classrooms.

A recent project conducted by Cobb, Yackel and Wood (1989), however, illustrates that shifts in social interaction in writing and reading have an analogue in mathematics. Cobb et al. used a similar approach to Graves and Hansen's (1983) "author's chair" for engaging children in the creation and restructuring of mathematics content. Math problems were introduced to children in large groups. Children then solved problems as partners or in small groups. Back together as a class, partners took turns explaining how they solved a problem. When the same problem generated conflicting answers, as was often the case, children were guided in treating these different responses as another problem—talking about reasons for different solutions, different methods of solving problems, and so on.

Curricular integration can be contrived as teachers try to squeeze a science lesson on spiders out of *Charlotte's Web* or a lesson on travel from *Where the Wild Things Are*. Creating contexts for children to structure and restructure their ideas through talking with one another and with adults may be the first step for true integrated learning.

Next Steps

Occasions for talk require careful thought when the social interaction patterns of children's homes differ from those of the school, as is often the case. In next month's issue, Claude Goldenberg describes current research on similarities and uniquenesses of beginning literacy contexts for children with different languages and cultures, as *Language Arts* considers "Tapping Children's Language Roots."

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11 The Multi-Ability Classroom

Treating status problems only with groupwork tasks has its limitations in the classroom setting. The introduction of groupwork tasks without any status treatment will actually activate status problems. Although the use of status treatments makes it possible to produce situations where low status students speak up and participate and where they are considered competent and influential on specific tasks, in most cases these effects will not transfer to other areas of the curriculum. Why not? There are features of conventional classrooms that reconstruct the status order just as fast as you can treat it in the context of groupwork. Conventional classrooms that place an emphasis on drill, recitation, and ability grouping; have a narrow view of curriculum; and rely on marking and grading as the sole method of evaluation, will reinforce beliefs about the intellectual incompetence of low status children.

Sociological analysis and research lead to an alternative model of classroom instruction, the multi-ability classroom, where there are multiple means of achieving success for students and multiple methods of evaluation. The multi-ability classroom means permanent changes in the organization of student work and evaluation practices. These changes are designed to increase active, engaged learning behavior on the part of low status students and to provide enriched detailed feedback to all students on how they are doing on many different and specific skills.

DEFINITION OF A MULTI-ABILITY CLASSROOM

The multi-ability classroom has many dimensions of intellectual competence. No one student is likely to be rated highly

on all these dimensions. Each individual is likely to be rated highly on at least one dimension. Thus, there are no students who are generally expected to be superior regardless of the nature of the task. Basically, the model requires changes in the underlying conception of human ability and changes in the organization of work and evaluation processes in the classroom.

In a multi-ability classroom there are many legitimate intellectual methods of solving problems. For example, students can solve problems visually, spatially, by talking and arguing about solutions, or through imaginative role playing. There are also many different kinds of tasks: discussion, manipulation, visual representation, long-term projects, interaction with community members, dramatization, construction, and experimentation.

In the multi-ability classroom it is legitimate for students to ask each other for help in reading and understanding written materials. It is often the specific duty of one member of the group to see to it that everyone understands the written instructions. However, the capacity to read is only *one* of the many relevant skills that are described by the teacher as important for the learning activity involved.

THE SINGLE-ABILITY CLASSROOM

The multi-ability classroom can be contrasted with highly conventional classrooms—I will call them single-ability classrooms. Take Ms. Trent's third-grade classroom as an imaginary example. Ms. Trent's day always starts with round-robin reading groups. There are three ability groups, the Lions, the Monkeys, and the Turkeys. She reads with one group while the others work on their language arts kits. These kits have been color coded so that children work on worksheets of a color representing their ability level. The next period is math; Ms. Trent explains how to do fractions to the whole class. She asks certain children to do sample problems at the board and publicly evaluates their performance. Then she assigns word problems using fractions on ditto worksheets to all but eight children (seven of whom are Turkeys). This group is given

worksheets reviewing number facts because she feels that they are not yet ready for fractions. After lunch it is time for social studies. The teacher asks all the students to read a chapter of the textbook to themselves. She then talks about the chapter and asks them to write answers to the comprehension questions provided in the text. The day finishes with penmanship and quiet reading time.

Ms. Trent uses quizzes and tests to evaluate students in math and social studies. She marks the wrong answers in red and gives a letter grade or number so that students know how well they did. Outstanding papers are posted on the bulletin board. All the children's names are listed on the bulletin board with gold stars after their names to represent the number of good test performances they have turned in. There is very little time for art and music except in preparation for holidays. Except for taking care of the class hamster and the collection of autumn leaves, there is no science curriculum.

The children are keenly aware of where everyone stands in reading, math, and social studies. They know what the ability-group labels mean. They can easily compare themselves with others on worksheets, test scores, and gold stars. If they have any doubts about the teacher's evaluation of the relative competence of each student, they can listen to her making public evaluations of student performance. The tasks in this classroom typically require the same reading and pencil-and-paper skills, so that those who are poor readers will almost certainly do poorly on most of the subjects. There are few alternative activities in which they can excel.

EFFECTS OF SINGLE- AND MULTI-ABILITY CLASSROOMS ON STUDENTS

Single-ability classrooms like Ms. Trent's produce strong agreement between the students as to where each one stands on reading ability or on ability in schoolwork. This agreement, in turn, produces a strong status order. It is only when children perceive themselves in a consensual way as widely different in ability that academic status orders can form. Once an

academic status order has formed, the status characteristic of reading ability or academic ability has the power to depress the participation and effort of poor readers and those who are seen as having less ability in schoolwork.

Rosenholtz and Wilson (1980) compared two types of classrooms—those where teachers used standardized tasks (as in seatwork), large-group instruction, and competitive evaluation and gave very little autonomy to students in decision making, and those where teachers used more small groups, individualized materials, and less competitive evaluation. In the first set of classrooms, which resembled the single-ability model described above, the students showed strong agreement with each other on a rank order of fellow students on their ability in reading. In the second set of classrooms, the agreement on where each student stood on reading ability was not so marked. In a further analysis of these data, Rosenholtz and Rosenholtz (1981) found that teachers, peers, and individual students perceived a wider range of ability levels in single-ability classrooms. In other words, in these classrooms some children were perceived as highly superior while others were perceived as very inferior.

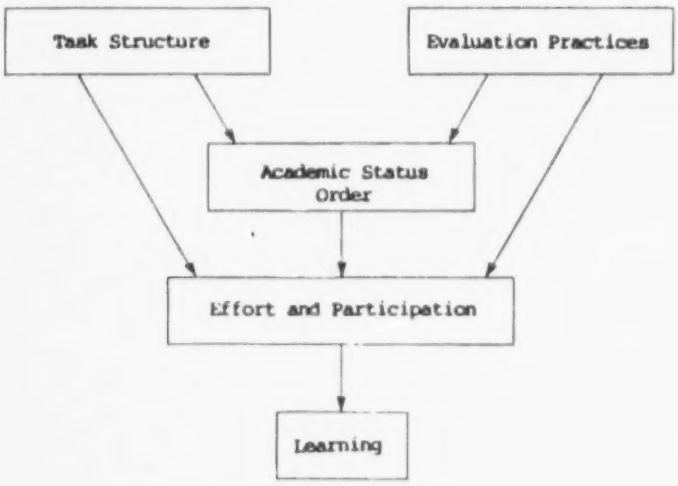
In review, task structure and evaluation practices help to create status problems in the classroom. By the same token, if you want to weaken the academic status order, you can change those task and evaluation features that help it to form and that reinforce it daily. Figure 11.1 shows that changes in task structure and evaluation practices will produce changes in the status order.

Figure 11.1 also indicates that the creation of a strong status order has effects on students' effort and participation. Low status students who do not try and do not participate have much less active learning time and less time on task. As a result, they achieve less on standardized measures than students who are more engaged with their tasks (Berliner et al., 1978).

CREATING THE MULTI-ABILITY CLASSROOM

What changes would be necessary if these sociological ideas were to be applied to classroom practice? In order to change

FIGURE 11.1: Classroom Social Structure



the kinds of human abilities that students see as relevant to classroom success, curricular activities must be closer to the way adults use their minds in the world of work. There must be more stress on problem solving with different acceptable ways to solve problems and different media in which the problem is presented. Classroom activities should include discussion, defending one's point of view, reasoning, logic, experimentation, model building, role playing, spatial and visual problem solving, and conceptual learning.

Psychologists such as Resnick, Glaser, Tyler, and Snow recommend a focus on how the individual brings alternative abilities, aptitudes, or cognitive processes to bear on a particular learning situation. More students will attain intellectual goals if the range of goals is broader; individuals will use multiple intellectual routes to the attainment of goals (Resnick, 1976, p. 9; Tyler, 1976, p. 19; Glaser, 1976, p. 351; Snow, 1978). The purpose of broadening the tasks and teaching objectives is to provide more opportunities for intellectual success and more dimensions on which a student might feel competent.

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Changes in Task Structure

In comparison to a single-ability classroom, a multi-ability classroom has less whole-class instruction, does not use stable ability groups, and uses comparatively little seatwork. Instead there is frequent use of groupwork, multimedia tasks, and students working together at learning centers. These techniques are used when the teaching objective involves conceptual learning. When the goals of learning involve more memorization (such as learning the number facts, spelling, and learning names of places in geography), either traditional drill and recitation or team learning may be employed.

When the teacher finds that certain children need instruction in specific skills, she assembles a temporary group for direct instruction. That group is disbanded when students have mastered the skills. Working with temporary groups presents few management problems because the other students are well trained to take responsibility for their own learning while the teacher is engaged elsewhere. Whole-class instruction clearly has its place in the array of teaching techniques. Teachers may give lively presentations and minilectures to students when orienting them to new topics, new types of learning tasks, or a new set of learning centers. Whole-class discussion is invaluable for interpretation and comprehension of literature, for pulling together what has been learned by various groups, and for dealing with issues of classroom management and general problems of interpersonal process.

Classrooms with such a varied task structure will hinder the formation of a consensual ranking on academic ability, as shown by the model pictured in Figure 11.1. Tasks that are varied do not allow students to make simple unidimensional comparisons with each other. If tasks are carefully defined as requiring multiple abilities, different children will have a chance to excel at different tasks. This will allow low status children to develop some favorable expectations for intellectual competence.

The purpose of the expanded use of groupwork is to improve the participation of all students and to increase in particular the effort, engagement, and participation of the low

status or low-achieving student. The use of small groups is associated with higher levels of student engagement as well as academic participation. This connection has been demonstrated in previous classroom research (Hess & Takanishi, 1974; Berliner et al., 1978).

Task Structure Changes in Integrated Classrooms

In working with a racially integrated and academically heterogeneous intermediate school, the Stanford Status Equalization Project tried to help six teachers change their task structure by introducing more multiple ability tasks and small groups as part of their regular curriculum. The staff held a series of discussions with each classroom teacher on how their regular curriculum might be adapted to the multi-ability model. During three months of in-service work, the staff assisted the teachers with preparing the students for groupwork using discussion skills.

One month later Ahmadjian (1980) carried out a special study in three of the classrooms that had worked with Stanford staff and three classrooms that had not participated in the program. The first three teachers employed small groups frequently, while the second set of teachers made very little use of small groups, relying on large groups and individual seatwork. Ahmadjian repeatedly observed 36 low-achieving students from these six classrooms as they worked in different subject areas of the curriculum, such as social studies and math, that ordinarily require reading.

When the observations were classified as to the kind of grouping and activity in which the student was seen, it was clear that students in the small groups were more likely to be talking about their work with other students than were students in other grouping patterns. In small groups students talked on an average of 1.5 times a minute, while in large groups the rate was .29 interactions per minute; in individual work the rate was .45 interactions per minute. If the students were working in a small group on creative writing, multimedia tasks, role playing, or part of open discussion, the probability of talking about the task rose to an average of 2.5 times a minute. As in Berlin-

er's (1978) study, Ahmadjian found relatively high rates of disengagement in seatwork—50 percent of the time these low-achieving students were scored as "off task."

Small groups were comparatively rare in the classrooms that did not receive in-service training. However, when small groups were observed in these classrooms, they also produced higher rates of talking and engagement, just as they did in the trained classrooms.

Changes in Evaluation

The multi-ability classroom avoids reliance on competitive marking and grading for evaluation of students as the *only* method of evaluation. Competitive evaluation, in particular, will aggravate status problems; it has the effect of making low status students less willing to participate and to risk receiving a negative evaluation (Awang Had, 1972). This is not to say that students should not know exactly where they stand on objective grounds. On the contrary, evaluation should include some specific feedback to individuals on what they have done well and on what they need to improve. Talking to students specifically about their performance can be combined with conventional marking and grading so that individuals are well aware of their strengths and weaknesses on multiple dimensions.

In a sample of integrated classrooms the Stanford Status Equalization Project found that teachers quite frequently combined traditional marking and grading with a more individualized approach to evaluation in which they talked with individuals specifically about what they did well and where they needed to improve. When this combination occurs, there are several favorable consequences. Children are more likely to believe that they are personally responsible for what marks they get (Oren, 1980)—that is, they are less likely to report that their grades are due to luck or to teacher bias—and minority children who are poor achievers are more likely to think that they have some academic abilities (Macias-Sanchez, 1982).

Changing Student Perceptions of Abilities

Changing the perception of low-achieving students that they are generally incompetent in school is probably the most difficult task for the classroom teacher. In my work with low status students I have found that they are typically highly resistant to believing that they are intellectually competent even when it is clear to others that they are behaving in a competent fashion.

Strangely enough, I have found it somewhat easier to improve their learning outcomes than to alter the tendency of everyone to perceive them as less competent in small-group interaction. The introduction of well-designed groupwork will have the effect of improving their engagement, participation, and learning outcomes. Beyond this strategy, one must still be concerned with what is happening within small work groups. In the *Finding Out/Descubrimiento* classrooms, it was still the case that high status children participated more frequently than low status children. Similarly, it was easier for the Status Equalization Project to produce harmonious interracial discussion groups in desegregated settings than it was to change the perception that poor readers do not make intellectually important contributions (Cohen, 1982; Gamero, 1981). Unless expectations for competence are fundamentally changed, low status students will continue to be less active and influential within the small work groups.

You can attack this problem while groups are working on rich tasks defined as requiring multiple abilities. Take the time to observe low status students while they are working in a group so that you can see them exhibiting reasoning behavior, visual or spatial skills, or precision in thinking, drawing, or manipulation—or making any intellectual contribution to the group. Immediately tell the student specifically and publicly what fine work he or she is doing. Be sure to make clear exactly what the student has done well.

This is one of the most powerful strategies a teacher can use because it takes advantage of his or her great power to confer evaluations on students that they will believe. This ma-

never should not be confused with reinforcing unsuccessful students even when they have made mistakes or have made a contribution that is not helpful for the group, a practice that will have destructive effects on the student's sense of competence and should always be avoided.

A FRESH LOOK AT INSTRUCTION

The discussion has implied certain general criteria for looking at tasks and evaluation practices. In examining the kinds of tasks you select for instruction, ask yourself the following questions: What opportunities do low achievers have for success in my classroom? Do classroom tasks and objectives provide multiple dimensions of competence? Is reading a prerequisite for successful participation on all important tasks? How often do I use multimedia tasks and small groups?

Also give consideration to your evaluation practices. Some of the questions you might ask yourself are: What are the ways that I provide for students to evaluate their own competence and the competence of others? Do I use ability grouping with more or less stable membership? Are competitive marks and grades the only basis the children have for knowing how well they are succeeding? If the low-achieving students do succeed, do their classmates have a chance to see and evaluate that success? Do the low-achieving students know clearly what they have done that is successful and what needs to be improved?

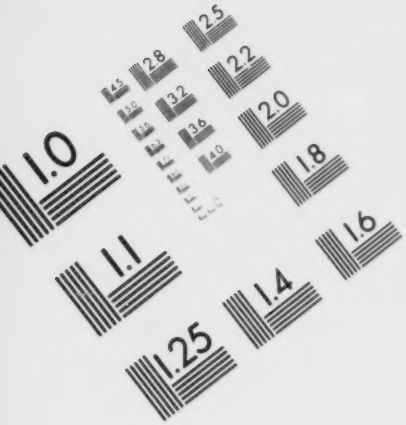
If you are dissatisfied with the answers to these questions for your classroom, you may wonder where to start making changes. The best way to start is to find a like-minded colleague with whom you can work. Develop some multiple ability tasks, carry them out, and evaluate them. Pay careful attention to what happens to low status students within their groups. When they display competent behavior, try to provide some specific and public feedback for them.

Once you have mastered these skills, you have already completed the hardest part of the recommended changes. You will then be ready to enrich activities designed to meet curricular requirements. Integrating many of the basic skills within

more challenging groupwork tasks as described in the previous chapter is the key to finding time to meet multiple objectives set for your grade level. Science and social studies are prime candidates for meeting such multiple objectives with groupwork techniques.

At the high school level, the pressures for evaluation are intense. Conventional examinations are quite consistent with the multi-ability classroom, as long as all your students have had equal access to the learning required for those examinations and have not been shut out by reading comprehension problems, by the unavailability of peer assistance in preparation for the exam, or by the narrow way in which the materials were presented. Finding time to talk systematically to individual students is not an easy task for a high school teacher working with 35 students in a 50-minute period. Although all students benefit from this kind of talk, it is the less successful student who is in the most critical need of feedback.

The multi-ability classroom should produce desirable effects on students you have regarded as the hardest to reach. They will put out more effort, spend more time on task, and approach assignments and tests with a more positive attitude and increased expectations for competence. Most of the teachers I have worked with earnestly wish to be effective with less successful students. In the final analysis, it is the joy of seeing these students begin to achieve that motivates many of us to continue the difficult process of changing the work of the classroom.



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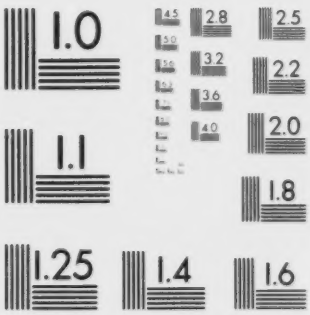

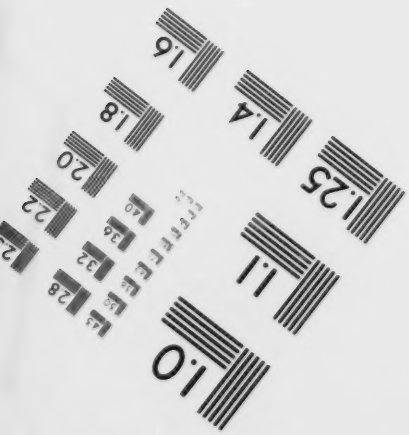

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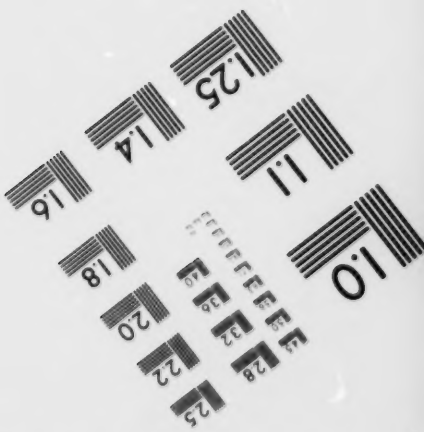

NATIONAL ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN
Position on Developmentally Appropriate Practice in the Primary Grades

Are you familiar with the National Association for the Education of Young Children (NAEYC) and its positions on developmentally appropriate practice? Based in the research about how young children learn, this 10-cent, 30-page brochure delivers a powerful message. I hope that you will use it as a philosophical guideline for your school as it grapples with the issues of ungraded primary. It is an effective teacher-training primer and also goes a long way toward convincing parents, administrators, and central office personnel of the merits of developmentally appropriate practice in grades K, 1, 2, 3.

Four pages of the brochure are attached to give you an idea of the NAEYC position.

Elizabeth Campbell Rightmyer
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Louisville, Kentucky 40222

Appropriate Education in the Primary Grades

A Position Statement of the National Association for the Education of Young Children

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A companion poster (NAEYC #778) for this brochure may be purchased from NAEYC for $4.

naeyc
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Principles of Appropriate Practice for Primary-Age Children

- ***Teachers of primary-age children must always be cognizant of the "whole child."***
  All areas of development are important—physical, social, emotional, and intellectual. Children are more likely to succeed in school when the school provides opportunities for them to use their bodies physically, make friends, and develop self-esteem, as well as acquire knowledge.

- ***Throughout the primary grades, the curriculum should be integrated.***
  The curriculum does not need to be divided into discrete subjects with time allotted for each. Young children can learn reading as they discover information about science; they can learn writing when they work on social studies or art projects.

- ***Primary-age children should be engaged in active, rather than passive activities.***
  Children learn best from firsthand experiences. They do not develop concepts from sitting silently and listening to someone else talk.

- ***The curriculum should provide many developmentally appropriate materials for children to explore and think about, and opportunities for interaction and communication with adults and other children.***
  Children learn best when they have real objects to manipulate, like blocks or science experiments, rather than only paper-and-pencil activities. Children need firsthand experience to solve problems. Their understanding is improved when they discuss what they experience with teachers and peers.

- ***The content of the curriculum should be relevant, engaging, and meaningful to the children themselves.***
  As children get older, they can learn more about distant lands and peoples, but they understand better when they can relate information and concepts to their own personal experiences.

- ***Primary-age children are provided opportunities to work in small groups on projects that provide rich content for conversation, and teachers facilitate discussion among children by making comments and soliciting children's opinions and ideas.***
  Meaningful projects that are completed over time help children to acquire deeper understanding of what they are learning. Research shows that engaging in conversation strengthens children's ability to communicate and to reason.

- ***Teachers recognize the importance of developing positive peer group relationships and provide opportunities and support for cooperative small group projects that not only develop cognitive ability but promote peer interaction.***
  Having positive relationships and friendships with peers is essential for primary-age children to develop a sense of their own competence. Children who are isolated or neglected by peers are more likely to drop out or become delinquent in the future. When schools unduly rely on competition and comparison among children, they lessen children's optimism about their own abilities, and stifle motivation to learn.

- ***The younger the children and the more diverse their backgrounds, the wider the variety of teaching methods and materials required.***
  No one teaching strategy will work for all children, because each child has a unique pattern and timing of development and learning style, as well as an individual family and cultural background. Good teachers use a variety of techniques to find the best match for each child.

- ***Curriculum and teaching methods should be designed so that children not only acquire knowledge and skills, but also the disposition and inclination to use them.***
  It is as important for children to acquire the desire to read as it is for them to acquire the mechanics of reading; and it is as important for children to want to apply math to solve problems as it is for them to know their math facts.

NAEYC-2

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Integrated Components of Appropriate and Inappropriate Practice in the Primary Grades

COMPONENT	APPROPRIATE PRACTICE	INAPPROPRIATE PRACTICE
Curriculum goals	• Curriculum is designed to develop children's knowledge and skills in all developmental areas—physical, social, emotional, and intellectual—and to help children learn how to learn, to establish a foundation for lifelong learning.	• The curriculum is narrowly focused on the intellectual domain with intellectual development narrowly defined as acquisition of discrete, technical academic skills, without recognition that all areas of children's development are interrelated.
	• Curriculum and instruction are designed to develop children's self-esteem, sense of competence, and positive feelings toward learning.	• Children's worth is measured by how well they conform to group expectations, such as their ability to read at grade level, and their performance on standardized tests.
	• Each child is viewed as a unique person with an individual pattern and timing of growth. Curriculum and instruction are responsive to individual differences in ability and interests. Different levels of ability, development, and learning styles are expected, accepted, and used to design curriculum. Children are allowed to move at their own pace in acquiring important skills including those of writing, reading, spelling, math, social studies, science, art, music, health, and physical activity. For example, it is accepted that not every child will learn how to read at age 6, most will learn to read by 7, and some will need intensive exposure to appropriate literacy experiences to learn to read by age 8 or 9.	• Children are evaluated against a standardized group norm. All are expected to achieve the same narrowly defined, easily measured academic skills by the same predetermined time schedule typically determined by chronological age and grade level expectations.
Evaluation	• No letter or number grades are given during the primary years. Grades are considered inadequate reflections of children's ongoing learning.	• Grades are seen as important in motivating children to do their work.
	• Each child's progress is assessed primarily through observation and recording at regular intervals. Results are used to improve and individualize instruction. No letter or number grades are given. Children are helped to understand and correct their errors.	• Children are tested regularly on each subject. Graded tests are sent home or are filed after children see their grades. To ease children's stress caused by the emphasis placed on test scores, teachers "teach to the test."

NAEYC -3

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ASSESSMENT TOOLS USED BY WORKING WHOLE LANGUAGE TEACHERS IN BOTH UPPER ARLINGTON SCHOOLS AND AT HIGHLAND PARK ELEMENTARY IN GROVE CITY, OHIO

COMPILED BY
JANET BERRY
OCTOBER 1990

Managing the Instructional Process
or Empowering Children to Internalize
the Structure of Your Classroom or
Building a Class of 25 Teachers

1. Knowing the Literature- Read everything that you can get your hands on. Spend time with the writings of Nancy Atwell, Donald Graves and Lucy Calkins. Become a student of Ken and Yetta Goodman. Have Charlotte Huck's book on your desk always!

2. Know the Whole Language Philosophy- Discuss with parents and colleagues the philosophy of how children learn to read by reading and to write by writing. The children also learn to read by writing and to write by reading.

3. Know Your Daily Schedule - Discuss with the children the value of reading writing workshop. Talk together about what makes a quality reading and writng time.(They Know!) Have clear guidelines that are shared by all thus you are free to meet with groups and conference.

4. Know Your Room Organization- Design your classroom with the idea that it is functional for children . Plan spaces that empower children to be teachers to each other and to themselves.(You'll need lots of discussions that teach children how to use the room !)

Good Luck!

5.Know Your Children- Develop assessment tools that tell you what they know and what guided instruction they need. Ungraded doesn't mean unmeasured! We need a thorough understanding of how children develop with regards to writing and reading skills. Thus we can guide them to effective reading strategies, happy experiences with reading and develop their writing skills.

Kindergarten Assessment

colors

pencil grip

scissor grip

phone #

address

beginning sounds

		moon	ear	lip
zebra	apple	rat	banana	goat
car	dog	toad	van	fudge
sun	x-ray	wind	note	umbrella
octopus	kangaroo	queen	puddle	yellow

upper case alphabet

C L B M F O D A S G U I X

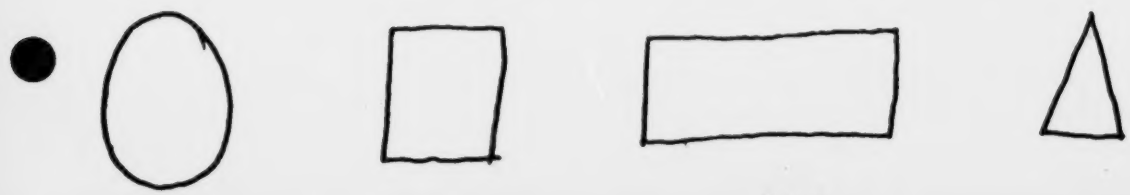
N R K E P H N J Q T V Z Y

lower case alphabet

c l b m f o d a s g u i x

n r k e p h n j q t v z y

shapes



Identifies #'s to:

3	7	2	1	0	5	8	4	6
10	9	17	12	11	15	13		
14	19	16	18	20	29	23		
27	30	41	47	58	64			
73	76	88	32	74	82			
94	66	83	97	46	100			

One-to-one

Teacher makes set of ____, child counts.

Teacher shows child #, child makes set.

3 5 8 7 4

Name : _____ Age: _____ TEST SCORE /

Recorder : _____ Date of Birth: _____ STANINE GROUP

PAGE	SCORE	ITEM	COMMENT
Cover		1. Front of book	
2/3		2. Print contains message	
4/5		3. Where to start	
4/5		4. Which way to go	
4/5		5. Return sweep to left	
4/5		6. Word by word matching	
6		7. First and last concept	
7		8. Bottom of picture	
8/9		9. Begin 'The' (Sand) or 'I' (Stones) bottom line, top OR turn book	
10/11		10. Line order altered	
12/13		11. Left page before right	
12/13		12. One change in word order	
12/13		13. One change in letter order	
14/15		14. One change in letter order	
14/15		15. Meaning of ?	
16/17		16. Meaning of full stop	
16/17		17. Meaning of comma	
16/17		18. Meaning of quotation marks	
16/17		19. Locate M m H h (Sand) OR T t B b (Stones)	
18/19		20. Reversible words was, no	
20		21. One letter : two letters	
20		22. One word : two words	
20		23. First and last letter of word	
20		24. Capital letter	

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1. a
2. the
3. Cat
4. it
5. is
6. mom
7. dad
8. and
9. zoo
10. dog

11. foot
12. good
13. man
14. pet
15. sit
16. wish
17. boat
18. sleep
19. spot
20. jump

21. me
22. boy
23. play
24. book
25. fire
26. down
27. sun
28. pop
29. van
30. stop

My name is

Name:

1. The boy is ~~fat.~~ in l

2. The girl is a first grader.

3. I saw a big ugly fly.

4. What kind of ice cream do you like?

5. Help! Help! cried the injured boy.

6. Where would you like to go on your birthday?

7. The flag is red, white, and blue.

DOLCH'S SIGHT WORD LIST

P Set 1	PP Set 2	PP Set 3	P	1^2	2^1
1. and	1. at	1. all	1. an	1. gave	1. us
2. are	2. away	2. an	2. after	2. that	2. how
3. can	3. big	3. around	3. as	3. made	3. does
4. come	4. blue	4. black	4. he	4. with	4. ate
5. funny	5. down	5. but	5. brown	5. know	5. once
6. go	6. for	6. by	6. cold	6. may	6. upon
7. he	7. good	7. call	7. did	7. now	7. found
8. is	8. green	8. come	8. fly	8. then	8. again
9. jump	9. have	9. do	9. from	9. find	9. about
10. like	10. here	10. ask	10. give	10. when	10. there
11. little	11. in	11. fast	11. going	11. what	11. long
12. look	12. me	12. get	12. had	12. has	12. want
13. my	13. it	13. going	13. help	13. over	13. first
14. of	14. not	14. into	14. him	14. were	14. any
15. play	15. on	15. wake	15. her	15. live	15. tall
16. red	16. one	16. no	16. his	16. got	16. wish
17. run	17. ran	17. old	17. if	17. they	17. or
18. said	18. saw	18. out	18. its	18. went	18. could
19. see	19. three	19. was	19. round	19. many	19. say
20. the	20. too	20. who	20. so	20. walk	20. ask
21. this	21. we	21. she	21. soon	21. them	21. our
22. to	22. will	22. some	22. ten	22. let	22. would
23. up	23. yellow	23. stop	23. under	23. new	23. take
24. you	24. yes	24. two	24. your	24. put	24. always

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RUNNING RECORD OF TEXT READING

Name:_____ Age:_____ Date:_____

Recorder:_____ Date of Birth:_____

Text Title	RW / E	Error Rate	Accuracy	Self-Correct Rate
_____	_____	1:_____	_____%	1:_____

	E	SC	Comments

WHEN THE PRINCIPAL ASKS

"When you do whole language instruction, how will you keep track of reading and writing skills?"

Bill Harp

You are feeling good about the support you received when you talked with your principal about moving into whole language instruction. You can begin planning meaningful reading and writing activities for your class.

You got a "green light" to begin planning instruction based on what you know about how children learn rather than on a given set of materials. However, the discussion will continue tomorrow. The last thing you were asked was "When you do whole language instruction, how will you keep track of reading and writing skills?"

What will you say?

(1) Whole language instruction, an approach that places greatest emphasis on reading as a process of constructing meaning, requires that teachers develop a new orientation to thinking about skills in reading and writing.

(2) Reading and writing are viewed as processes, rather than accumulations of small skills. How children are handling the processes is the teacher's focus rather than the acquisition of discrete skills.

(3) In a whole language classroom, children are asked to respond first to the largest units of meaning, whole selections, and only after truly meaningful experiences with whole selections are they asked to respond to smaller pieces such as paragraphs, sentences, words, and letter-sound relationships.

(4) Traditional "scope and sequence of skills" orientations to reading and writing are inappropriate in a whole language classroom. We don't begin with the small pieces and build to meaning. We begin with meaning and in that context study the small pieces.

(5) The language arts should be integrated. Children should see this integration as they deal with language in meaning-creating ways. Activities must support this interdependence of the language arts in ways that are meaningful.

(6) The ways in which we monitor progress in reading and writing must reflect the whole language philosophy. Regardless of the difficulties involved, teachers must be accountable for the learning of their students. Blanket grading and "tracking systems" that focus on skills are inconsistent with the whole language concept.

Our assessment of a child's progress should be process oriented rather than product oriented. We are product oriented when we ask if a child has mastered a specific skill. We are process oriented when we look at improvement in the child's use of the writing process or when we analyze the child's growth in using the processes of reading. Our desire to have children experiment with language does not reduce our responsibility to evaluate their progress.

What does the literature say?

First, let's look at writing. The literature reveals a clear movement toward process evaluation in writing.

Turbill (1985) says that evaluation in writing is looking at how things are going and making a judgment about how to keep things moving in a way that meets the needs of the "four shareholders in the enterprise of evalua-tion—child, teacher, principal, paren (1985, p. 66). She describes the wo of a group of teachers who examine the evaluation process in writing they looked at each child's w through daily writing, frequent con ences, and periodic publication.

The teachers agreed on several co ponents of evaluation in writing:

(1) The most significant evalu record is in the teacher's head. Th nothing wrong with the terms *int sionistic* and *subjective*.

(2) Each teacher supplement subjective evaluation with some of anecdotal record book or pr day-by-day observations.

(3) Periodically teachers through each child's writing fo look for patterns emerging over

(4) The writing folder inc page completed by the child "Things I Have Learned." The ponents guided the evaluation ing and ensured that progress to principal and parents were on process.

Schools are moving increas holistic evaluation of writing ance. Here a piece of writ and then evaluated overall a predetermined criteria. So numerical rating is assig man (1988) has offered a scale to be used after the tics to be evaluated are e

(1) Little or no presence acteristics;

(2) Some presence of istics, but communicatio

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is impeded;
airly successful communication
through detailed and consist-
ence of characteristics;
Highly inventive and mature
e of the characteristics.
g this rating scale on writing
s across time will clearly docu-
child's progress. Atwell (1987)
cribed an effective way to docu-
e status of an entire class. Each
notes where each student is in
f first draft, second draft, edit-
nference, rewriting final copy,
conference, self editing, etc.
harting allows the teacher to be
table for each student's progress
point in time.

ation in reading

uation of student progress in
is similarly increasingly more
focused. Concern for "grade
or "instructional reading level"
g way to concern for increased
semantic cues or the ability to
r one's own comprehension, for
e. This movement is leading to
reliance on miscue analysis
development of checklists for
es rather than for skills.

essions, a whole language basal
ed by Holt, Rinehart & Win-
Canada, offers the teacher 14
sts to identify children's inter-
vel of functioning, or stage of
ment in literacy. Teachers are
ring the power of observing,
ng, and recording children's de-
ental functioning across time.
ecords or checklists become a
e tool in planning as well as in
g progress.

work of a group of teachers in a
r reading clinic who developed
uation checklist is reported by
iley et al. (1988). Using a cur-
guide, the teachers developed
s in reading instruction. From
they developed and tested sev-
ms of a "Literacy Development
st" (see Figure).

e also is a growing interest in
analysis as a way of observing
ment. By analyzing a child's
, we can draw some valuable
ces about the cueing systems
hich the child relies as a reader.
example, if the text word is

Literacy development checklist
University of Maine Reading/Writing Program Summer 1987

Student _____ Teacher _____

	Does not apply	Most of the time	Some times	Not noticed yet	Comments
I INTEREST IN BOOKS					
Is willing to read					
Shows pleasure in reading					
Selects books independently					
Chooses books of appropriate difficulty					
Samples a variety of genre					
II BOOK KNOWLEDGE					
Beginning of book					
End of book					
Title					
Author					
Illustrator					
III READING STRATEGIES					
Uses knowledge of language to understand text					
Uses meaning clues in context					
Uses meaning clues from prior experience					
Uses sentence structure clues					
Substitutes a word with similar meaning					
Sounds out					
Uses word structure clues					
Uses story structure clues					
Views self as a reader					
Notices miscues if they interfere with meaning					
Infers words in close-type activities					
Takes risks as a reader (guesses)					
Summarizes major events in a story					
Remembers sequence of events					
Demonstrates predicting and confirming					
Attends to reading independently					

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house and the child reads "horse" without noticing the loss of meaning, we can infer that this reader relies much more heavily on graphophonic cues than on semantic cues. If a meaningful word substitution is made, we can infer that the reader relies most heavily on semantic and syntactic cues.

Miscue analysis helps us understand whether a reader is attempting to construct meaning or decoding sound-symbol relationships. By doing a series of miscue analyses across time, we can observe a child's progress toward becoming an increasingly meaning-constructing reader (Resta, 1987).

So tomorrow?

You are feeling confident that you will be able to lay out an evaluation plan that includes careful observation of your children and their work, checklists in reading and writing, holistic evaluation in writing, and miscue analysis in reading that will far exceed the current system. In fact, you are looking forward to tomorrow's meeting!

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Bailey, Janis, Phyllis E. Brazee, Sharyn Chiavaroli, Joyce Herbeck, Thomas Lechner, Debra Lewis, Ann McKittrick, Lorraine Redwine, Kris Reid, Betty Robinson, and Harry Spear. "Problem Solving Our Way to Alternative Evaluation Procedures." *Language Arts*, vol. 65, no. 4 (April 1988), pp. 364-73.

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Resta, Virginia. "Documenting and Demonstrating Student Growth in Literacy Development." Speech delivered at the International Reading Association convention, Anaheim, CA, May, 1987.

Turbill, Jan, ed. *No Better Way to Teach Writing!* New South Wales, Australia: Primary English Teaching Association, 1985.

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NAME_____

DATE FINISHED	TITLE AND AUTHOR
_____	A Kiss for Little Bear - Minarik
_____	Amanda Pig and Her Big Brother Oliver - VanLeeuwen
_____	Chicken Soup with Rice - Sendak
_____	Danny and The Dinosaur - Hoff
_____	Days with Frog and Toad - Lobel
_____	Dinosaur Time - Parish
_____	Father Bear Comes Home - Minarik
_____	The Fire Cat - Averill
_____	Fox and His Friends - Marshall
_____	Frog and Toad All Year - Lobel
_____	Frog and Toad Are Friends - Lobel
_____	Frog and Toad Together - Lobel
_____	Garth Pig and The Ice Cream Lady - Rayner
_____	Grasshopper On the Road - Lobel
_____	Grizzwold - Hoff
_____	The Heart of the Woods - Odyssey Series
_____	Hurry Hurry - Edith Hurd
_____	Little Bear - Minarik
_____	Little Bear's Friend - Minarik
_____	Little Bear's Visit - Minarik
_____	Little Fish that got away - Cook
_____	Little Raccoon and the Outside World - Moore
_____	Miss Nelson Is Missing - Allard
_____	More Tales of Oliver Pig - VanLeeuwen
_____	Morris Goes to School - Wiseman
_____	Mouse Soup - Lobel
_____	Mouse Tales - Lobel
_____	Mr. Pine's Mixed-Up Signs - Kessler

Name _____

Date Finished

_____ A Kiss for Little Bear

_____ Amanda Pig and Her Big Brother

_____ Days with Frog and Toad

_____ Fox and His Friends

_____ Frog and Toad All Year

_____ Frog and Toad are Friends

_____ Frog and Toad Together

_____ Little Bear

_____ Little Bear's Visit

_____ More Tales of Oliver Pig

_____ Mouse Soup

_____ Mouse Tales

Name _____

Date Finished

_____ Fox on Wheels

_____ Fox in Love

_____ Owl at Home

_____ Tales of Oliver Pig

Date: April 5, 1989
To: Wickliffe Staff
From: Steve DeLapp
Re: Recommendations for using the Literacy Development Files

The following comments are summary statements from the discussions we had concerning the literary development files. If you were unable to attend any of the meetings, please check with me if you have questions about any of the following.

"Longitudinal Tracking" Insert Card

Teacher Summative Statement
This section is to be used for brief summary statements about language growth, focusing on a key strength (or key weakness/need) for the child as a reader, writer, or speaker.
Please note the attached chart of growth points that James Allen has sent for our Language Arts Guides. The statements on this chart may be extremely helpful in giving each of you examples of literacy areas you might focus on for this section. The chart may also be helpful as you prepare for checklist comments.

We emphasized at each meeting the importance of being brief!

Test Scores
The standardized scores for this section will be reported by the stickers that have gone into the cumulative folders in the past. We will do this in the office.
The only additional point made in our discussion was that some of you may want to write in disclaimers if the reported, standardized scores seems out of line with daily classroom performance.

Special Interests and Accomplishments
The key point to remember in this section was that you do not need to limit your comments to literary development. If you were one that disagreed with this perspective, comfortably respond with additional comments about language literacy or leave it blank.
Please follow the same format that is in the section "teacher summative statement". Identify grade level and then write a brief comment. For example,

K Has shown a strong interest in building and block play

Again, as we discussed for the summative statement, be brief, and, if nothing significant comes to you, write nothing at all for this section.

"Lists of Books Read" Insert Card
Several procedures were recommended in our discussions for this card. First, use the same format that is built into the summative statement column, that is, list grade level once and then list book titles after the grade.

If you want to date the entries more precisely, list the month/year in parenthesis after the title. For example,

K Where's Spot (11-88)
Sunshine *Baby Gets Dressed* (2-89)
Storybox *Mrs. Wishy-washy* (5-89)

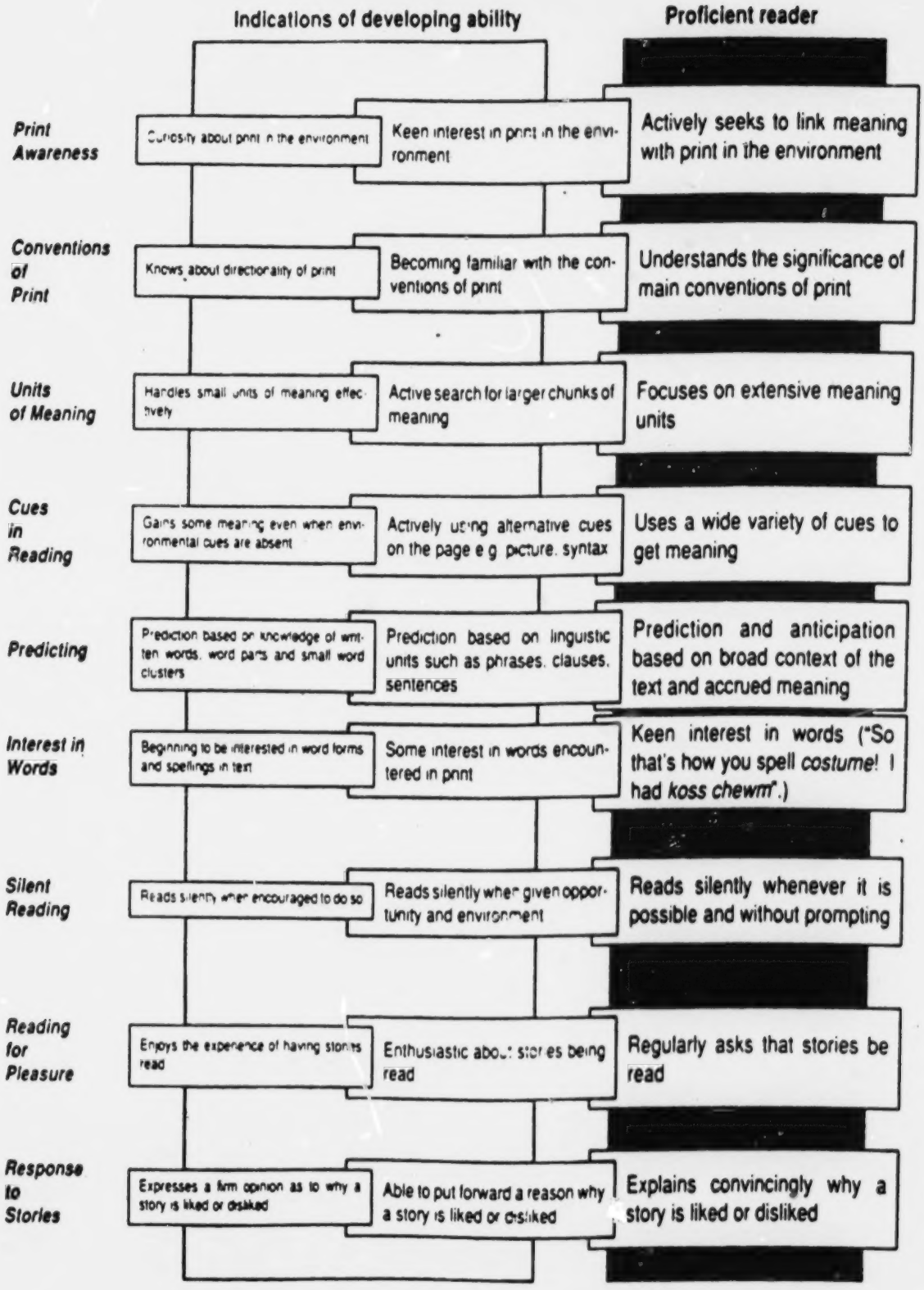
List 3 to 5 significant titles for a child each year. If you prefer, upper grade children could be asked to fill in their own chart, periodically identifying key books read. The books should be reflective of interests and/or reading levels.

Writing Portfolios

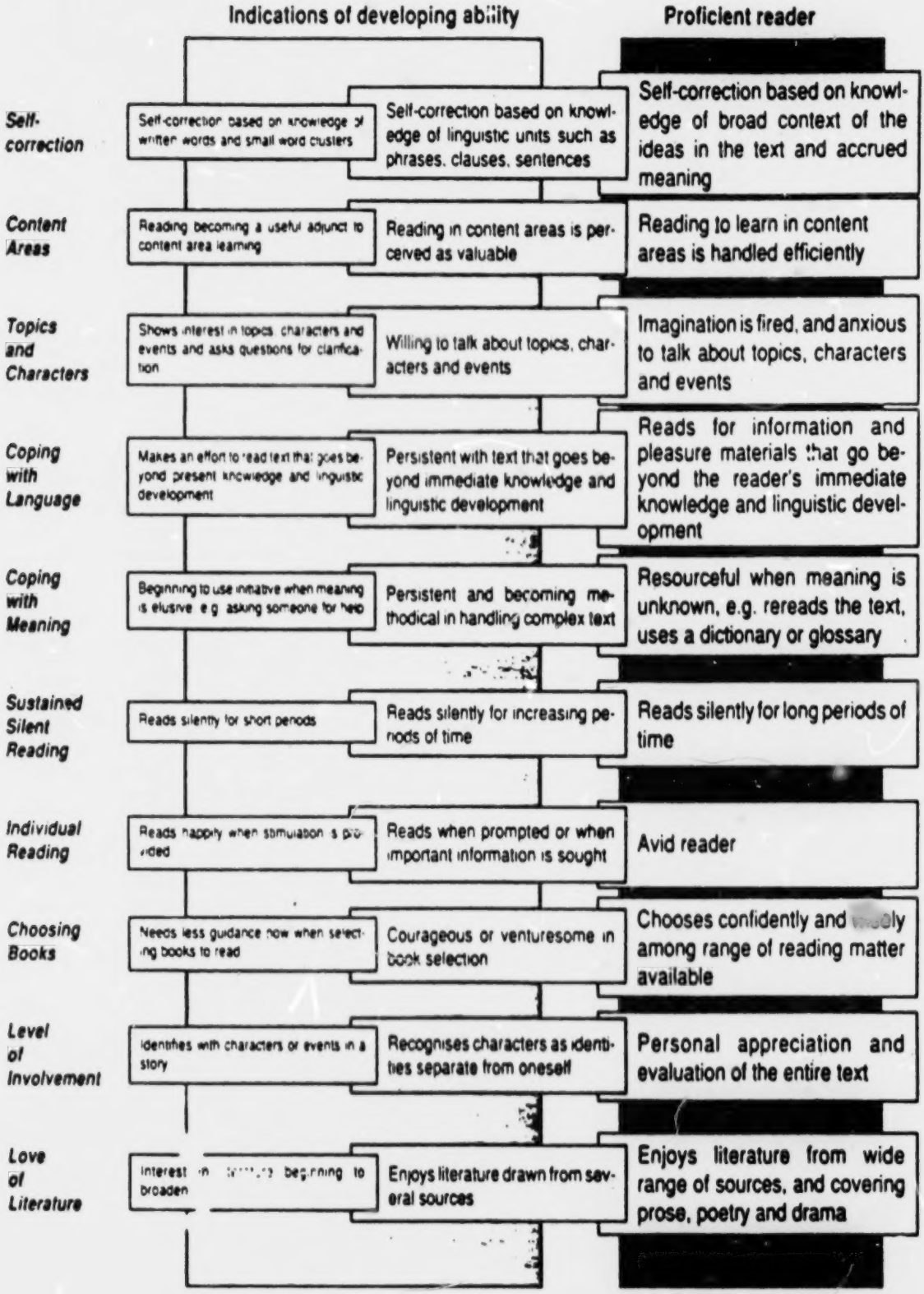
The writing portfolios that are currently kept in the cumulative files will be transferred to the Literary Development Files. From the writing folders you keep in your classroom, three pieces should be selected that will go into the LDF at the end of the school year. These pieces should be dated. If you need folders to keep classroom writing in, check with the office. We have boxes of writing folders available.

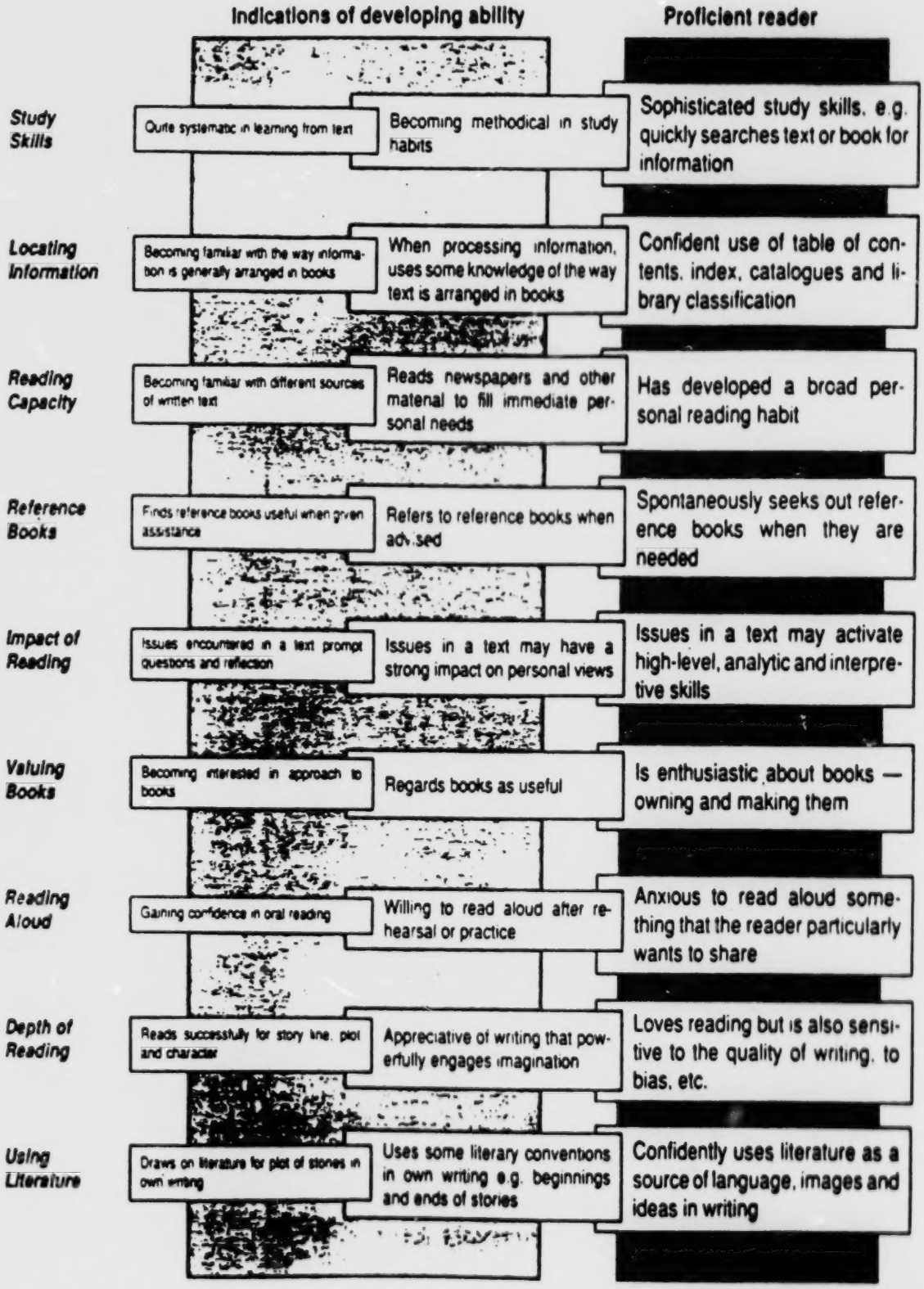
If you have questions on any of the above, please check with me. I appreciated the input from the different discussion groups and hope this memo both clarifies and is consistent with the ideas that were discussed.

THE EARLY YEARS OF DEVELOPMENT


Indications of developing ability
Proficient reader
Print Awareness
Curiosity about print in the environment
Keen interest in print in the environment
Actively seeks to link meaning with print in the environment
Conventions of Print
Knows about directionality of print
Becoming familiar with the conventions of print
Understands the significance of main conventions of print
Units of Meaning
Handles small units of meaning effectively
Active search for larger chunks of meaning
Focuses on extensive meaning units
Cues in Reading
Gains some meaning even when environmental cues are absent
Actively using alternative cues on the page e g picture, syntax
Uses a wide variety of cues to get meaning
Predicting
Prediction based on knowledge of written words, word parts and small word clusters
Prediction based on linguistic units such as phrases, clauses, sentences
Prediction and anticipation based on broad context of the text and accrued meaning
Interest in Words
Beginning to be interested in word forms and spellings in text
Some interest in words encountered in print
Keen interest in words ("So that's how you spell *costume*! I had *koss chewm*".)
Silent Reading
Reads silently when encouraged to do so
Reads silently when given opportunity and environment
Reads silently whenever it is possible and without prompting
Reading for Pleasure
Enjoys the experience of having stories read
Enthusiastic about stories being read
Regularly asks that stories be read
Response to Stories
Expresses a firm opinion as to why a story is liked or disliked
Able to put forward a reason why a story is liked or disliked
Explains convincingly why a story is liked or disliked

BECOMING INDEPENDENT IN READING


Indications of developing ability
Proficient reader
Self-correction
Self-correction based on knowledge of written words and small word clusters
Self-correction based on knowledge of linguistic units such as phrases, clauses, sentences
Self-correction based on knowledge of broad context of the ideas in the text and accrued meaning
Content Areas
Reading becoming a useful adjunct to content area learning
Reading in content areas is perceived as valuable
Reading to learn in content areas is handled efficiently
Topics and Characters
Shows interest in topics, characters and events and asks questions for clarification
Willing to talk about topics, characters and events
Imagination is fired, and anxious to talk about topics, characters and events
Coping with Language
Makes an effort to read text that goes beyond present knowledge and linguistic development
Persistent with text that goes beyond immediate knowledge and linguistic development
Reads for information and pleasure materials that go beyond the reader's immediate knowledge and linguistic development
Coping with Meaning
Beginning to use initiative when meaning is elusive e.g. asking someone for help
Persistent and becoming methodical in handling complex text
Resourceful when meaning is unknown, e.g. rereads the text, uses a dictionary or glossary
Sustained Silent Reading
Reads silently for short periods
Reads silently for increasing periods of time
Reads silently for long periods of time
Individual Reading
Reads happily when stimulation is provided
Reads when prompted or when important information is sought
Avid reader
Choosing Books
Needs less guidance now when selecting books to read
Courageous or venturesome in book selection
Chooses confidently and widely among range of reading matter available
Level of Involvement
Identifies with characters or events in a story
Recognises characters as identities separate from oneself
Personal appreciation and evaluation of the entire text
Love of Literature
Interest in literature beginning to broaden
Enjoys literature drawn from several sources
Enjoys literature from wide range of sources, and covering prose, poetry and drama


Indications of developing ability
Proficient reader
Study Skills
Quite systematic in learning from text
Becoming methodical in study habits
Sophisticated study skills, e.g. quickly searches text or book for information
Locating Information
Becoming familiar with the way information is generally arranged in books
When processing information, uses some knowledge of the way text is arranged in books
Confident use of table of contents, index, catalogues and library classification
Reading Capacity
Becoming familiar with different sources of written text
Reads newspapers and other material to fill immediate personal needs
Has developed a broad personal reading habit
Reference Books
Finds reference books useful when given assistance
Refers to reference books when advised
Spontaneously seeks out reference books when they are needed
Impact of Reading
Issues encountered in a text prompt questions and reflection
Issues in a text may have a strong impact on personal views
Issues in a text may activate high-level, analytic and interpretive skills
Valuing Books
Becoming interested in approach to books
Regards books as useful
Is enthusiastic about books — owning and making them
Reading Aloud
Gaining confidence in oral reading
Willing to read aloud after rehearsal or practice
Anxious to read aloud something that the reader particularly wants to share
Depth of Reading
Reads successfully for story line, plot and character
Appreciative of writing that powerfully engages imagination
Loves reading but is also sensitive to the quality of writing, to bias, etc.
Using Literature
Draws on literature for plot of stories in own writing
Uses some literary conventions in own writing e.g. beginnings and ends of stories
Confidently uses literature as a source of language, images and ideas in writing

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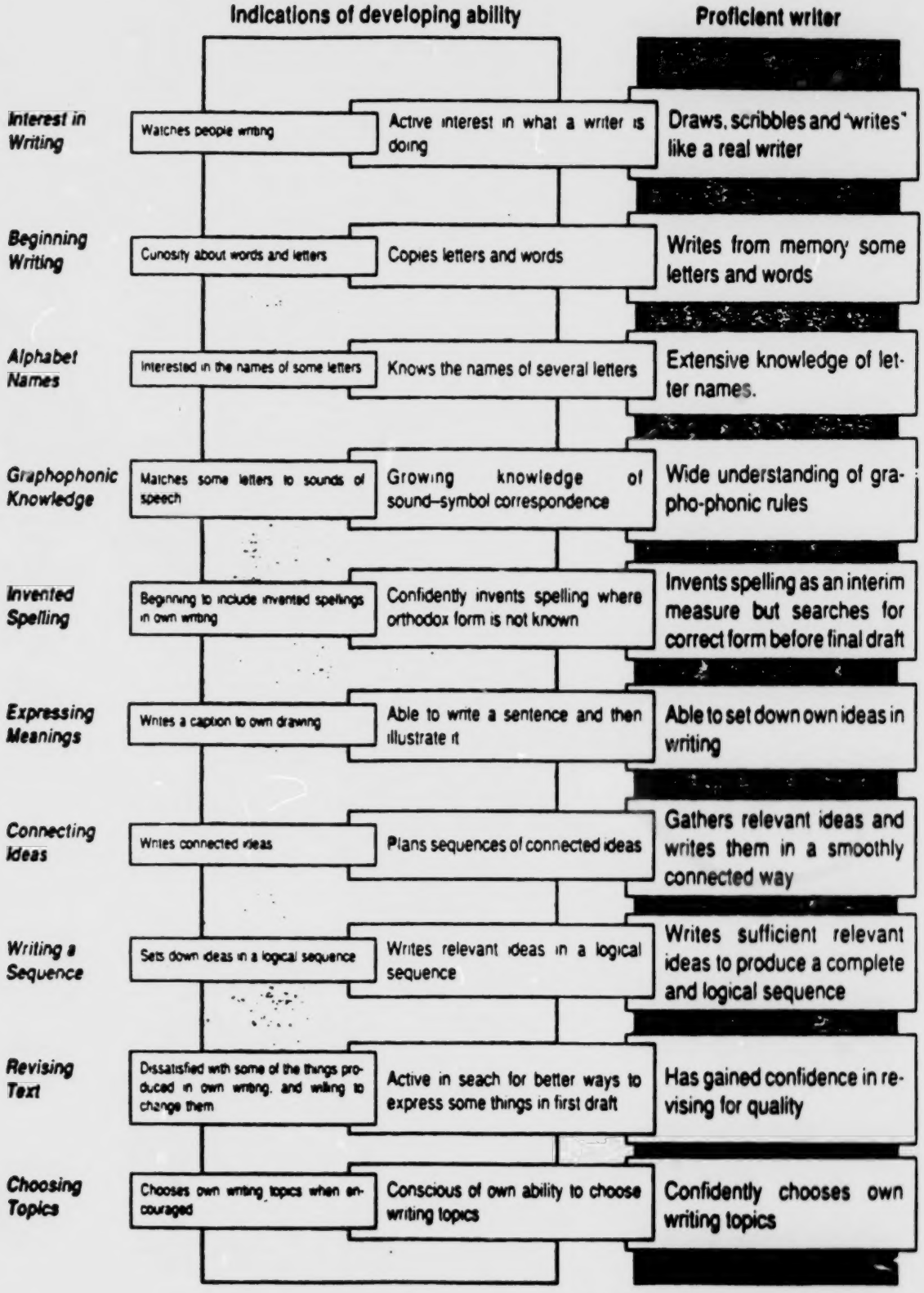
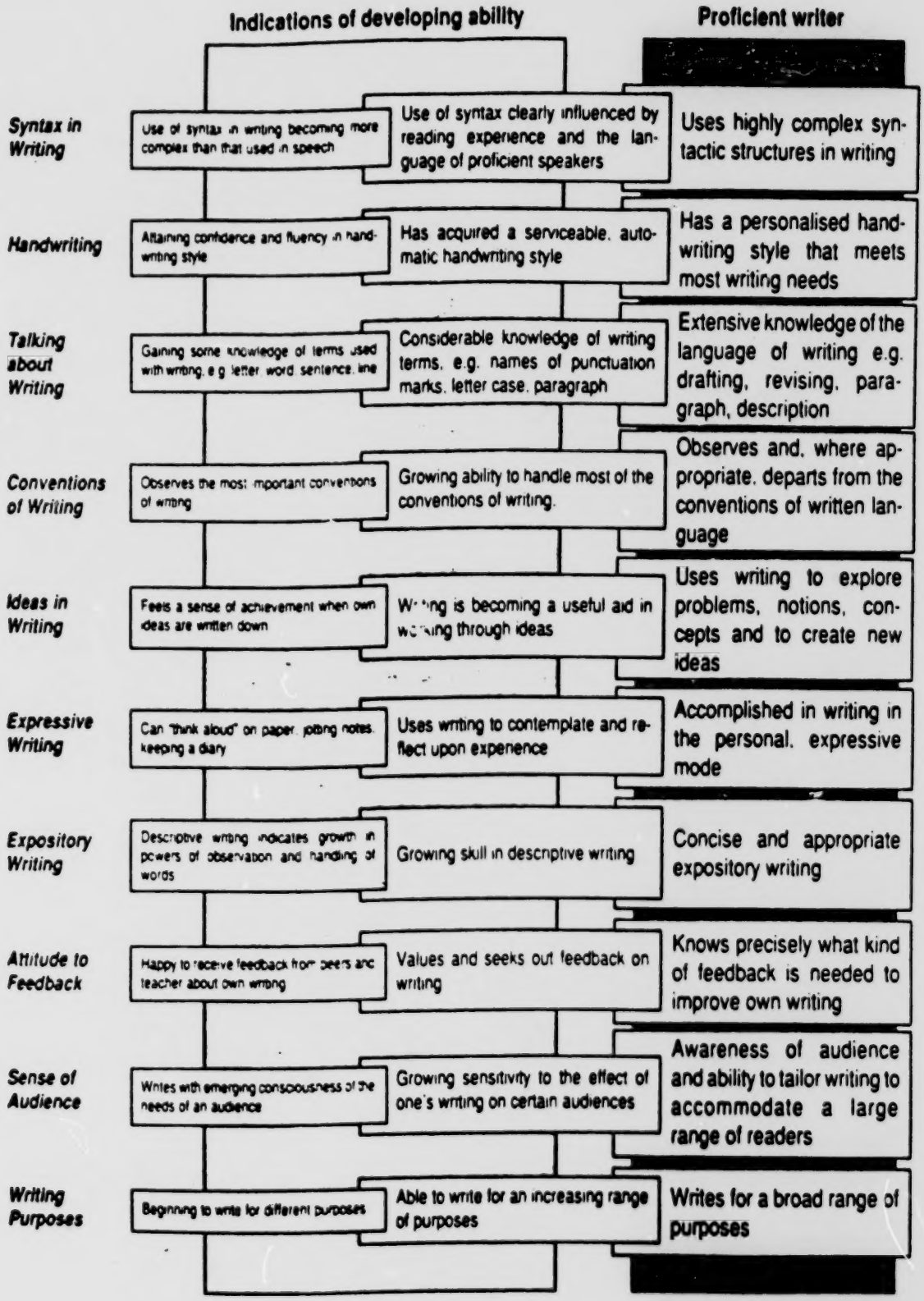
GROWTH POINTS IN WRITING

THE EARLY YEARS OF DEVELOPMENT


Indications of developing ability
Proficient writer
Interest in Writing
Watches people writing
Active interest in what a writer is doing
Draws, scribbles and "writes" like a real writer
Beginning Writing
Curiosity about words and letters
Copies letters and words
Writes from memory some letters and words
Alphabet Names
Interested in the names of some letters
Knows the names of several letters
Extensive knowledge of letter names.
Graphophonic Knowledge
Matches some letters to sounds of speech
Growing knowledge of sound–symbol correspondence
Wide understanding of grapho-phonic rules
Invented Spelling
Beginning to include invented spellings in own writing
Confidently invents spelling where orthodox form is not known
Invents spelling as an interim measure but searches for correct form before final draft
Expressing Meanings
Writes a caption to own drawing
Able to write a sentence and then illustrate it
Able to set down own ideas in writing
Connecting Ideas
Writes connected ideas
Plans sequences of connected ideas
Gathers relevant ideas and writes them in a smoothly connected way
Writing a Sequence
Sets down ideas in a logical sequence
Writes relevant ideas in a logical sequence
Writes sufficient relevant ideas to produce a complete and logical sequence
Revising Text
Dissatisfied with some of the things produced in own writing, and willing to change them
Active in seach for better ways to express some things in first draft
Has gained confidence in revising for quality
Choosing Topics
Chooses own writing topics when encouraged
Conscious of own ability to choose writing topics
Confidently chooses own writing topics

BECOMING INDEPENDENT IN WRITING


Indications of developing ability
Proficient writer
Syntax in Writing
Use of syntax in writing becoming more complex than that used in speech
Use of syntax clearly influenced by reading experience and the language of proficient speakers
Uses highly complex syntactic structures in writing
Handwriting
Attaining confidence and fluency in handwriting style
Has acquired a serviceable, automatic handwriting style
Has a personalised handwriting style that meets most writing needs
Talking about Writing
Gaining some knowledge of terms used with writing, e.g. letter, word, sentence, line
Considerable knowledge of writing terms, e.g. names of punctuation marks, letter case, paragraph
Extensive knowledge of the language of writing e.g. drafting, revising, paragraph, description
Conventions of Writing
Observes the most important conventions of writing
Growing ability to handle most of the conventions of writing.
Observes and, where appropriate, departs from the conventions of written language
Ideas in Writing
Feels a sense of achievement when own ideas are written down
Writing is becoming a useful aid in working through ideas
Uses writing to explore problems, notions, concepts and to create new ideas
Expressive Writing
Can "think aloud" on paper, jotting notes, keeping a diary
Uses writing to contemplate and reflect upon experience
Accomplished in writing in the personal, expressive mode
Expository Writing
Descriptive writing indicates growth in powers of observation and handling of words
Growing skill in descriptive writing
Concise and appropriate expository writing
Attitude to Feedback
Happy to receive feedback from peers and teacher about own writing
Values and seeks out feedback on writing
Knows precisely what kind of feedback is needed to improve own writing
Sense of Audience
Writes with emerging consciousness of the needs of an audience
Growing sensitivity to the effect of one's writing on certain audiences
Awareness of audience and ability to tailor writing to accommodate a large range of readers
Writing Purposes
Beginning to write for different purposes
Able to write for an increasing range of purposes
Writes for a broad range of purposes

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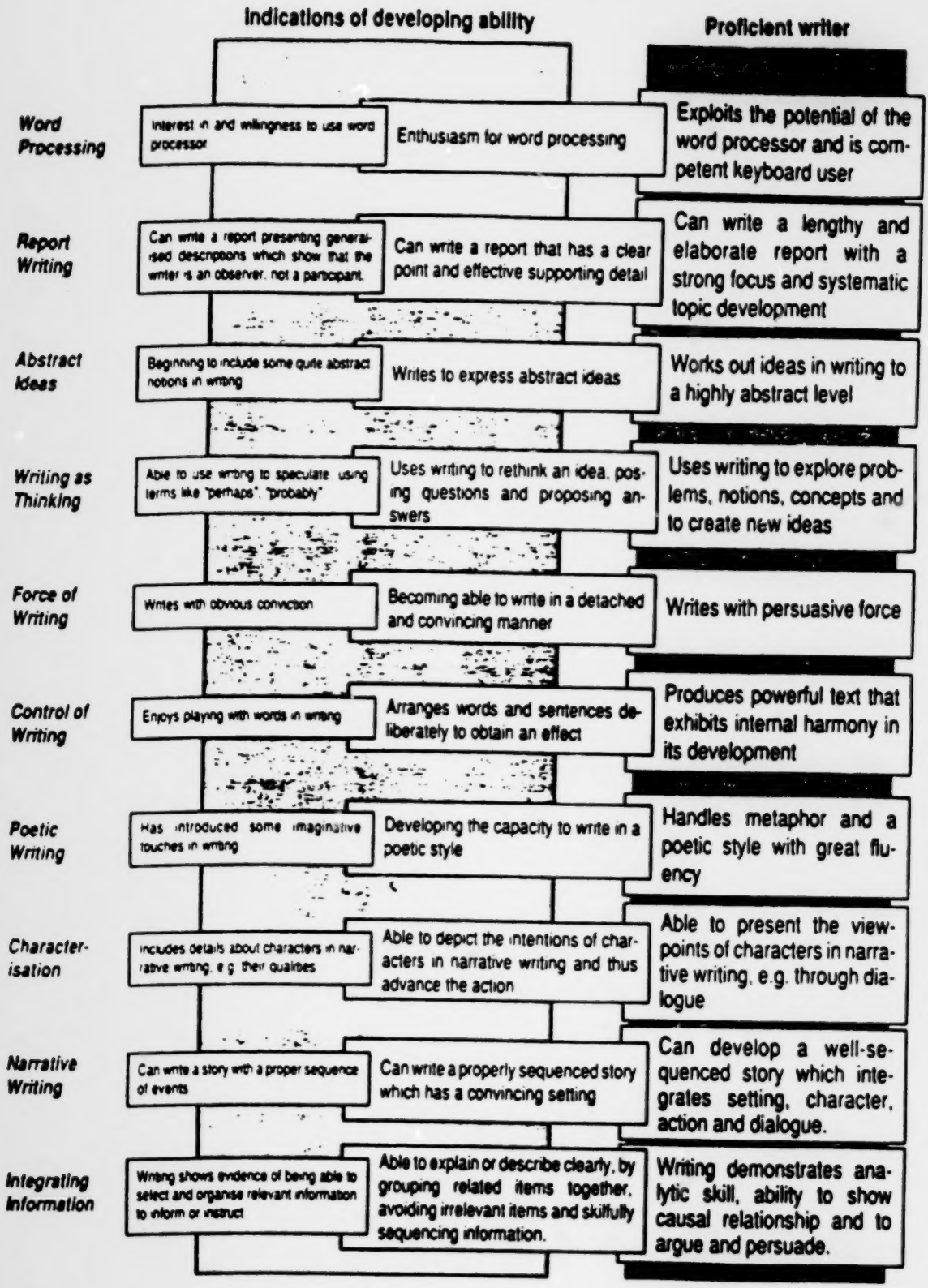
Indications of developing ability
Proficient writer
Word Processing
Interest in and willingness to use word processor
Enthusiasm for word processing
Exploits the potential of the word processor and is competent keyboard user
Report Writing
Can write a report presenting generalised descriptions which show that the writer is an observer, not a participant.
Can write a report that has a clear point and effective supporting detail
Can write a lengthy and elaborate report with a strong focus and systematic topic development
Abstract Ideas
Beginning to include some quite abstract notions in writing
Writes to express abstract ideas
Works out ideas in writing to a highly abstract level
Writing as Thinking
Able to use writing to speculate using terms like "perhaps", "probably"
Uses writing to rethink an idea, posing questions and proposing answers
Uses writing to explore problems, notions, concepts and to create new ideas
Force of Writing
Writes with obvious conviction
Becoming able to write in a detached and convincing manner
Writes with persuasive force
Control of Writing
Enjoys playing with words in writing
Arranges words and sentences deliberately to obtain an effect
Produces powerful text that exhibits internal harmony in its development
Poetic Writing
Has introduced some imaginative touches in writing
Developing the capacity to write in a poetic style
Handles metaphor and a poetic style with great fluency
Characterisation
Includes details about characters in narrative writing, e.g. their qualities
Able to depict the intentions of characters in narrative writing and thus advance the action
Able to present the viewpoints of characters in narrative writing, e.g. through dialogue
Narrative Writing
Can write a story with a proper sequence of events
Can write a properly sequenced story which has a convincing setting
Can develop a well-sequenced story which integrates setting, character, action and dialogue.
Integrating Information
Writing shows evidence of being able to select and organise relevant information to inform or instruct
Able to explain or describe clearly, by grouping related items together, avoiding irrelevant items and skilfully sequencing information.
Writing demonstrates analytic skill, ability to show causal relationship and to argue and persuade.

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ASSESSING PROGRESS IN WRITING

Language Level

1. Prints letters only.
2. Prints any recognizable word.
3. Prints meaningful groups of two or more words.
4. Uses simple sentences.
5. Writes a sequenced piece, with two or more sentences.
6. Writes a story with two or more themes (paragraphs).

Message Quality

1. Understands that symbols represent ideas. (Uses marks, letters, punctuation.)
2. Understands that print conveys meaning ("reads" his or her marks on the page as though it were a message).
3. Copies a message and understands what it means.
4. Uses repetitive sentence patterns. (I can see a _____.)
5. Can write own ideas and experiences.
6. Writes sequenced pieces.

Directional Principles

1. Has no directional awareness. (Marks or prints at random.)
2. Uses one directional pattern (either top to bottom, or left to right).
3. Sometimes reverses directional pattern (bottom to top, or right to left).
4. Uses correct directional patterns.
5. Uses correct directional patterns and spaces between words.
6. Writes consistently with correct arrangement of print and appropriate spacing.

Upper Arlington City Schools
Holistic Reading Assessment
Intermediate Scoring Descriptors
(extended list)

Holistic Score 1

BOOK SELECTION
Often makes inappropriate book selections
Limited booklist
Often chooses material to difficult to read to too easy
Tends to choose short books
Needs help in selecting books

CONSTRUCTING MEANING/RESPONSE
Frequently does not comprehend
Limited recall and description of characters, setting, and plot
May not read for meaning
Distracted by details
Gleans a few details from text, but has trouble retelling a coherent story

SILENT/ORAL READING
Reads slowly orally and silently
Lacks fluency: reads word by word, lacks expression, does not heed punctuation
Reading process breaks down frequently
Reads slowly
Reads well below grade level expectations

STRATEGIES
Depends heavily on a single cue
May have difficulty tracking (across and down)
Makes inappropriate miscues that interfere with meaning
May not use context cues to attack unknown words
Does not self monitor
Limited strategies

BEHAVIORS
Is distracted easily during reading time
Does not finish books
Rereads familiar easy books
Shows stress in a reading task

ATTITUDE
Perceives reading as painful and time consuming
Lacks confidence as a reader (views self as poor reader)
Won't take risks
May read for pleasure
Views self as poor reader

Upper Arlington City Schools
Holistic Reading Assessment
Intermediate Scoring Descriptors
(extended list)

Holistic Score 3

BOOK SELECTION
Tends to select short, easy, familiar books of limited genre or books beyond reading ability
May need help with selecting books
Needs guidance to select and read from different genre
Needs assistance in selecting and using informational books
Knows limited number of authors/ illustrators
List of books may be adequate due to support
Some books on booklist may not have been completed

CONSTRUCTING MEANING/RESPONSE
Description of books, characters, settings, and plot may limited and out of sequence
May focus on singular aspect
Shares information and feelings about stories with prompting (i.e. tell me more)
Needs encouragement to visualize descriptions
Interprets literature and supports views with text with teacher support
Relates reading to real experiences with support
Tends to focus on single component (setting, characters, plot)
May be distracted by irrelevant details
Compares and contrasts literature with support
Retelling incomplete

SILENT/ORAL READING
Elements of fluency are lacking
Reads in word by word or short phrases
May neglect punctuation
May adjust rate with familiar text

STRATEGIES
Uses some strategies, not always in an integrated, flexible manner
Needs guidance to use a variety of strategies
May not be able to adjust predictions based on new information
Narrows predictions to own experiences
May make inappropriate miscues; self-corrects some miscues that interfere with meaning

BEHAVIORS
Often needs encouragement and support while reading
Takes risks with encouragement
Sometimes off task during reading time
May respond passively to literature read aloud
Rereads when directed by teacher
Raises few questions
May show stress

ATTITUDE
Views reading is work; requires conscious effort
May have inappropriate view of self as a reader
Values book extensions over reading

Upper Arlington City Schools
Holistic Reading Assessment
Intermediate Scoring Descriptors
(extended list)

Holistic Score 4

BOOK SELECTION
May read widely
Knows authors and books
Usually makes appropriate book selections
Selects books for a variety of purposes

CONSTRUCTING MEANING/RESPONSE

Retelling may include description of characters, settings, plot, etc.
Shares information and feelings about stories spontaneously
May interpret books critically
Supports views with text with encouragement
May briefly summarize story
Visualizes descriptions (settings, characters, action)
Critiques author and literary purpose with encouragement
Relates reading to real life experiences and global concerns with encouragement
Retells accurately but may not filter out irrelevant details
Compares and contrasts with other literature
Recognizes author's style

SILENT/ORAL READING
Reads aloud fluently
Reads at varying rates depending on purpose with encouragement
Reads in multiple word phrases
May lack effective expression
Reads at a consistent rate

STRATEGIES
Uses a variety of strategies
Self-corrects most miscues
Understands when it is important to know a word and when it isn't
Makes good predictions

BEHAVIORS
Views self as capable reader
Reads to finish task or story
Raises questions
Uses information from literature in contexts outside of reading
(i.e., conversation, the arts)
Takes risks
Persists with difficult text with support
Involves self with book
Responds enthusiastically to literature read aloud
Rereads for a variety of purposes
Recommends books to peers
Responds to reading with independent extension activities

ATTITUDE
Enjoys reading when encouraged to read
Views self as capable reader

PRIMARY SCHEDULE

8:50 **Arrival.** Children turn in their homework, hang up coats and bookbags, and prepare for work.

9:00 **Math.** Students work in individual math folders toward weekly goals. Using a unique, self-pacing program (Miquon Math Lab Materials), the children discover and learn to apply math concepts by using a variety of manipulative materials: cuisenaire rods, pattern blocks, chips, weights and measures, geoboards and many others. Students work as independently as possible, and teachers move from student to student asking and answering questions and teaching new ideas.

Centers. As children complete their math goals they move into other learning centers. Creative art or craft projects, handwriting practice, science and cooking experiments, board games, mapping and measuring activities, as well as explorations with books, blocks, and the computer are available for students to select. Through working and playing together in centers, the children put to use their cognitive, emotional, social and physical skills in a completely natural way.

A nutritious snack, provided by parents, is offered during centertime.

10:25 **Group.** The children and teachers come together to talk about the day's special activities and share important events from life at home.

10:35 **Language and centers.** Children divide into small groups for phonics and word patterning activities, vocabulary building, and grammar and spelling practice, adapted from the SUCCESS in Reading and Writing curriculum. As children finish their prescribed work, they choose learning centers as before.

12:00 **Lunch and recess.** The children bring a lunch from home; the school provides milk and 100% orange juice. Everyday, the children have at least a half hour to stretch and exercise their developing muscles. Outside on the playground or inside in the Fun Room, the children run, climb, jump, skate and slide on developmental equipment.

1:00 **Recreational reading.** Children select books or magazines from the classroom library and read silently. Teachers listen to selected students read orally, and ask questions to check interest, readability, and comprehension. Students learn that reading is an enjoyable and interesting activity -- an end in itself.

(over)

1:45 **Group.** The group reassembles to share ideas and deal with the business of the class. The teacher may read aloud from a book or introduce a topic for discussion. The healthy give-and-take that occurs at group time leads to self-assurance, group awareness, and individual self-discipline.

2:00 **Language experience (writing).** The class writes a response to grouptime. Sometimes the class works as a whole, dictating to the teacher who writes the children's words on a large tablet. Other times, each student will write his or her own story. As students vary in age and maturity, so does their writing. Teachers mingle with the writers, helping with spelling, punctuation, and clarity. Students regularly write and illustrate prose, poetry, and letters; sometimes they bind their work into class books that can be read later.

2:35 **Clean-up and dismissal.** Learning to clean up creates in children a sense of ownership in the classroom and a sense of responsibility in planning future activities. The Primary children also are responsible for collecting their own homework, clothing, and other possessions.

Date: MY WEEKLY REPORT Name: Homework:

○ returned last weekly report		Monday	Tuesday	Wednesday	Thursday	Friday	M	T	W	Th	F
8:50- 9:00	Homeroom										
9:00- 9:50	Math										
10:00-10:15	Snack										
10:15-10:45	Recess										
10:45-11:00	Group										
11:00-12:00	Language Arts			Library McAvinue Lang. Arts	Library Kopp Lang.Arts						
12:00-12:30	Lunch										
12:30- 1:00	Recreational Reading										
1:00- 1:45	Recess			P.E.	P.E.	P.E.					
1:45- 2:00	Group			Music							
2:00- 2:30	Language Experience										
Weekly Centers	Art/Cooking	Computer	Language	Math	Science	S. Studies					

☺ = satisfactory T= tardy — = not required
X = corresponds with numbers at right

What I enjoyed this week ☺ :

Things to work on :

Signed: M. McAvinue/Kopp

1. I did my own work.
2. I was busy and worked quietly.
3. I followed directions.
4. I finished my work on time.
5. I was a good listener.
6. I was careful of materials.
7. I showed good lunch/snack manners.
8. I showed respect for others by

CS-3

name: math date: CS-4

Monday

Workbook: _____ Centers: _____

Dittos: _____ Games: _____

Tuesday

Workbook: _____ Centers: _____

Dittos: _____ Games: _____

Wed.

Workbook: _____ Centers: _____

Dittos: _____ Games: _____

Thursday

Workbook: _____ Centers _____

Dittos: _____ Games: _____

Friday

Workbook: _____ Centers: _____

Dittos: _____ Games: _____

CS-5

PARENT/GUARDIAN READING VERIFICATION FORM

The BOOK IT!℠ National Reading Incentive Program is fully supported by the U.S. Department of Education, NEA, AFT, AASA, NSBA, NAESP, IRA, ALA, NSPRA, ASCD, NASSP, NASBE, The Library of Congress Center for the Book, and other educational organizations around the country.

I VERIFY THAT _____ (NAME OF CHILD) READ _____ (TITLE OF BOOK)

BY _____ (NAME OF AUTHOR) BEGINNING ON _____ (DATE) FINISHING ON _____ (DATE).

DATE _____ SIGNED _____ (SIGNATURE OF PARENT / GUARDIAN)

- - - -

OBSERVING CHILDREN

One of the most interesting and informative aspects of teaching small groups of children is having the freedom and flexibility to spend time observing them. The gathering of observational data is an invaluable tool in assessing a child's growth and in making judgments about her education.

When making observations, it is important to remember and record exactly what the child does and says. When an observer makes notes of typical, usual behavior over a period of time, a pattern emerges. It is only in knowing each child's pattern that we can then make a judgment about her.

Many times we tend to be, from the start, judgmental about a child's actions. We make "leaps" oin reasoning and don't realize it. We are trained to explain children's behavior and we do it so impulsively that sometimes we don't separate our observations from our conclusions.

For example,

OBSERVABLE BEHAVIOR	CONCLUSIONS
D. climbed the slide 3 times.	D. loves to slide. D. tires to prove he's not afraid. D. hogs the slide.
Rode bikes with Sam.	Is best friends with Sam. Wants to show off for Sam. Won't ride with anyone but Sam today.
Laughed and ran away at bathroom time.	Likes to tease. Hates Miss Faye. Doesn't want to sit on the potty. Is a mean, hateful, spoiled little boy.

While we must, at some point, make conclusion about a child's meanings, it is premature to make inferences at the time of observation. The better able the observer to separate her opinions from the actual behavior, the clearer the picture of the child's actual functioning.

Anecdotal records note typical and usual behaviors, including
- -choices of classroom activities
- -choices of friends
- -quality of work
- -task completion habits
- -specific language
- -response to new activities
- -response to new materials
- -response to group instruction

Anecdotal records also include the isolated incidents that seem to be outside the child's normal pattern. Work samples, collected over time, are also a type of anecdotal record.

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CS-1

Checklists are an economical use of time and effort if all children in the class are to be observed. An open ended form like the one below is a useful one.

Name	Skill	Date						

Time-sampling is a detailed description of a 10 or 15 minute block of behavior. It is particularly useful with children who are challenging your teaching, planning or management skills.

All three types of observation are helpful in judging a child's progress, as long as the observations are inference-free. In reviewing your own perceptions of what occurs in your classroom, be aware of separating what you observe from what you think about what you observe.

from Faculty Handbook
by E Lightmyer, Chance School
7/87

GROUP

TEACHER SCHEDULE

	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY
8:00-8:10	Opening Exercises	8:00 8:10	Opening Exercises	8:00 8:15	Opening Exercises	8:00 8:10	Opening Exercises	8:00 8:10	Opening Exercises
8:10-8:45	Linguistics	8:15 8:45	Observation (Spanish)	8:15 8:45	Observation (Spanish)	8:15 8:45	Observation (Spanish)	8:15 8:45	Observation (Spanish)
8:45-9?20	Linguistics	8:45 9:20	Linguistics	8:45 9:20	Linguistics	8:45 9:20	Linguistics	8;45 9:20	Linguistics
9:20-9:55	Family Life/ Health	9:20 9:55	PREP (Flow)	9:20 9:55	PREP (Media)	9:20 9:55	PREP (Flow)	9:20 9:55	PREP (Media)
9:55-10:30	PREP (Flow)	9:55 10:30	Mastery-in-Learning (Music)	9:55 10:30	Mastery-in-Learning (Music)	9:55 10:30	Mastery-in-Learning (Music)	9;55 10:30	Mastery-in-Learning(Music)
10:30-11:05	Lilly Assess.Prj. (P.E./Health)	10:30 11:05	Lilly Assess.Prj. (P.E./Health)	10:30 11:05	Lilly Assess.Prj. (P.E./Health)	10:30 11:05	Math	10:30 11:05	Lilly Assess.Prj (P.E./Health)
11:05-11:45	Projects	11:05 11:45	Pod	11:05 11:45	Pod	11:05 11:45	Pod	11:05 11:45	Pod
11:45-12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period	11:45 12:45	Teacher's Lunch Period
12:45-1:20	Science/Math	12:45 1:20	Math (Computer)	12:45 1:30	Math	12:45 1:20	Science/Math	12:45 1:20	Math (Computer)
1:20-1:55	Science/Math	1:20 1:55	Math (Science)	1:30 1:55	Theme-Related	1:20 1:55	Science/Math	1:20 1:55	Math (Computer)
1:55-2:30	Social Studies/ Linguistics	1:55 2:30	Tutoring and Observation (Art)	1:55 2:30	Presentations by	1:55 2:30	Social Studies/ Linguistics	1:55 2:30	Tutoring and Observation (Art)
2:30-3:05	Social Studies/ Linguistics	2:30 3:05	Curriculum Development (Art)	2:30 3:05	Community Resources	2:30 3:05	Social Studies/ Linguistics	2:30 3:05	Curriculum Development (Art)
3:05-3:30	Home Room/ Supervise Dismissal	3:05 3:30	Home Room/ Supervise Dismissal	3:05 3:30	Home Room Supervise Dismissal	3:05 3:30	Home Room/ Supervise Dismissal	3:05 3:30	Home Room/ Supervise Dismissal

1. Use 35 and/or 40 minute time-blocks or multiples thereof.
2. Use double periods for Language Arts and Science (See General Overview).
3. Complete the time-blocks for each period each day.
4. Identify teacher's lunch periods as TLP.
5. Identify teacher's preparation time as PREP including time after 8:00 a.m. and before 3:30 p.m. in RED.
6. Write-in special assignment in appropriate time-blocks. e.g. AV Coordinator, Lunch Duty, Safety Patrol
7. Jr. High Teachers: Write-in the Subject and Grade Level for each time-block taught.

Green Teacher: Hazel Tribble Grade or Subject: Intermediate Semester Ending: Room No. 21

BANK STREET COLLEGE
Bank Street College of Education/610 West 112th Street/New York, NY 10025 (212) 222-6700
RESEARCH DIVISION

Kentucky's new primary school: Implications for teacher education

Summary of presentation

1. The new primary school as early childhood education for children from age 4 through 8

2. What every teacher (and administrator) should know to create the new primary school
   - o the importance of understanding child development
   - o standards for professional practice of early childhood education
   - o focus on children: working together, personalizing the program, integrating curriculum
   - o a variety of structural models for the new primary program

3. Issues for in-service staff development: Working with the present school staff

4. Issues for teacher preparation programs in Kentucky: growing new teachers

Anne Mitchell
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RESEARCH DIVISION

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Presentation by Anne Mitchell
October 1990

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Hollifield, J. et al (1989). *Children Learning in Groups: And other Trends in Elementary and Early Childhood Education.* Urbana, IL: ERIC Clearinghouse on Elementary and Early Childhood Education.

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INTERDEPENDENT LEARNING MODEL

This model uses instructional games and pupil self-management methods with children to teach them traditional academic skills, positive socio-cultural attitudes and behaviors.

Audience: Approved by the JDRP for grades K-3. The model may also be implemented in grades 4-6.

Description: The Interdependent Learning Model (ILM) is a comprehensive, structured approach to full-day instruction for children in preschool through the sixth grade. The model's developmental goals for children are to teach them cooperative, independent and interdependent behaviors; problem-solving skills, and positive attitudes toward learning. The model's teaching-learning methods are based on the principles of cognitive-developmental, group process, and programmed instructional theories. Instructional games, the primary vehicles for teaching and learning in ILM classrooms, are used to implement these principles. The games --- called Transactional Instructional Games --- are designed to further the acquisition of problem-solving skills, promote language development, and help children to become self-motivated, self-reliant learners. Teaching materials, based on children's cultures and environments, include Table Games, suitable for instruction in every subject; Conversation Games, which reinforce verbal fluency, creative expression and logical thinking; and Street/Folk/Musical Games, which develop physical dexterity and coordination, social and academic skills. The Integrated Skills Method (ISM), which emphasizes teacher responsiveness to children's interests and learning styles, is used to coordinate small group reading instruction.

The ILM uses a classroom management system that includes room arrangement, grouping, classroom rules, team teaching; pupil self-scheduling, recordkeeping, and evaluation. Model classrooms, arranged by interest areas, provide a variety of learning activities. Generally, children work in small groups, independently of direct adult participation. Mixed skill-level grouping is encouraged so that children can learn from their peers. The children schedule the majority of their own work, and record and evaluate the results of their efforts. Teachers and Instructional Assistants share the responsibility for facilitating the children's progress toward the developmental goals.

Requirements: The Program may be implemented in a single class, on a grade level, or in preschool kindergarten, and grades 1-6. Training in the model's methods may be arranged for one or more teacher trainers, for groups of teachers or supervisors. Three days are required to train new staff to adopt either the mathematics or the reading program. The cost of a mathematics adoption includes six manuals and classroom materials. The cost of a reading program adoption will vary according to the ages and grades of the children involved. The Integrated Skills Method reading program is an integral component of the educational model. The reading program has been employed with dramatic results in regular elementary school classes and in small special education classes. Educators who wish to adopt the entire model or the reading program should expect to implement the methods for at least one full year. That is sufficient time to produce significant positive results. ILM Adoption Projects are also expected to establish a formal plan to evaluate the effects of the adoption on the children.

Services: Awareness materials are available at no cost. Visitors are welcome by appointment for guided classroom visits at the ILM Atlanta, GA and District 18, New York Demonstration Projects. Training for administrators, supervisors, teacher trainers, teachers, and support staff is available at the adopter site or at the Demonstration Project. Implementation observation and follow-up services are available to adopters at nominal costs.

For More Information:

Ms. Colleen McGorman
Interdependent Learning Model
Fordam University at Lincoln Center, Room 1003
113 West 60th Street, New York, NY 10023
(212) 841-5280/82

Extracted from *Education Programs That Work*: *National Diffusion Network, Edition 15.* Longmont, CO: Sopris West, Incorporated, Page F-9, 1989.

(See Reverse Side For Adoption Requirements And Costs.)

FORDHAM UNIVERSITY • GRADUATE SCHOOL OF EDUCATION
113 West 60 Street, New York, N.Y. 10023 • 212 / 841-5280, 5282

ADOPTION REQUIREMENTS: GENERAL

Generally, the administration and staffs of school districts and schools that adopt the Interdependent Learning Model (ILM) are expected to cooperate with the Fordham staff to ensure that the model is fully implemented within a reasonable amount of time. Working together at all levels to assure rapid, high quality implementation is both educationally and economically efficient and sensible.

Detailed planning, involving all those who will participate in an adoption, is an essential prerequisite to establishing and implementing the ILM. School districts that adopt the model expect its methods to have an affirmative effect on the children, that is, to impact positively on their sense of self, their social, communication, academic and related skills. School district officials should know that to produce the desired effect the following needs and issues will have to be explored before an adoption begins:

- key school district administrators, school principals and coordinators will be required to participate in some training.
- some school district teaching and evaluation requirements may have to waived or coordinated with the goals and philosophy of the model.
- An ILM project must have a coordinator and at least one teacher trainer.
- ILM projects have at least half-time paraprofessionals in all classrooms.
- Classroom teachers and paraprofessionals are trained together and are expected to share responsibilities and work as teams.
- Five-half days of training for all participating adoption project staff before a school year begins is a requirement;

  five additional half-days of training during the first four months of a school year are also required.
- The school district may have to modify some classroom environments so that they conform to the methods, philosphy and goals of the model.

ADOPTION REQUIREMENTS AND COSTS

ADOPTING UNIT	START-UP MATERIALS	START-UP MATERIALS COSTS	TRAINING FEES
Per Project: *	Complete sets of ILM training materials for a Project Director, one or more Principals, Trainers, and other Supervisory Staff	$68.00 per set	$250.00/Day **
Per Classroom: (25 Children)	*Adoption Manual* *Classroom Management Manual*	$38.00	
	"Games Children Play . . ." *Catalog:* For Mathematics, Science, Social Studies, Geography, Reading, Etc.	$25.00	
	Conversation Games Manuals: *Volume I - People Times* *Volume II - Experiences* *Volume III - Solutions*	$47.00	
	Street/ Folk/ Musical Games *Manuals and Cassettes:* *Volume I - Song-Games* *Volume I - Cassette* *Volume II - Chants and Handclapping Games* *Volume II - Cassette* *Volume III - Street Games*	$48.00	
	Nonconsumable: *one Specific Skills Series set* (Barnell Loft, Ltd.) One Basal Reader per student. Enriched Library Area.	$200.00	$1000.00 ***
	Consumable: *Linguistic Pattern Series Workbooks*	$325.00 - $550.00	
	Mastery Tests	$37.50	

* A Project may range in size from one classroom to several grades in several schools.

** Adopters are responsible for the *per diem* fee, plus the Trainer's travel expenses, i.e., transportation, room and board.

*** This amount includes the Trainer *per diem* fee for two days, training materials, and Implementation Guides for ten (10) to twenty (20) Trainees. The Adopter is also responsible for the Trainer's travel expenses, i.e., transportation, room and board.

ADOPTION COST EXAMPLES

Educational decision-makers who believe the Interdependent Learning Model's (ILM) methods of instruction will improve their students' academic performance may select a mathematics adoption, a reading adoption, or an adoption of the entire model. Since the ILM was validated 12 years ago, a few schools have adopted its approach to teach mathematics; many more adopted the Integrated Skills Method, the model's reading program. However, because its U.S. Department of Education validation, and its continuing positive effects on children are based on the implementation of the whole model, most schools and school systems have chosen to re-create entire ILM learning environments --- at least in their kindergarten through third grade classrooms.

The costs of the three adoption options, of course, are different. Assume that a school needs to change its method of instruction in order to enhance the children's learning and performance in kindergarten and grades 1, 2, and 3; that there are two classes at each level, for a total of eight; that there are 200 children enrolled in the classes. The school's principal, a trainer, and the eight teachers will have to be trained, and all of the classes will need materials. Excluding the ILM trainer's travel expenses, which the Adopter pays, the start-up cost of a mathematics adoption would be approximately $2200.00 ($11.00 per student); a reading adoption would cost approximately $4800.00 ($24.00 per student); and an adoption of the entire model would cost approximately $7000.00 ($35.00 per student).

The ILM staff is prepared to provide adoption training, materials and other services to school districts anywhere in the United States.

For more information, please contact:

Ms. Colleen McGorman
Interdependent Learning Model
Fordham University at Lincoln Center
113 West 60th Street, Room 1003
New York, NY 10023
(212) 841-5280/82

Miquon Math & More

Student Workbooks Teacher's Guides Cuisenaire Rods	Miquon Math Materials Key Curriculum Press 2512 Martin Luther King Jr. Way P.O. Box 2304 Berkeley, CA 94702 1-800-338-7638
Chip Trading Activity Books Teacher's Guides Chip Trading Sets * For demonstrating addition, subtraction, multiplication, division, and place value.	Cuisenaire Company of America 12 Church Street Box D New Rochelle, N.Y. 10802 1-800-237-3142
The Fraction Factory Program The Fraction Factory Pieces The Fraction Factory Games & Puzzles Binder * Colorful plastic pieces are used in conjunction with worksheets, puzzles and games. Students identify fraction pieces, create equivalent fractions, add, subtract, multiply, and divide fractions.	Creative Publications Order Department 5040 West 11 th Street Oak Lawn, IL 60453 1-800-624-0822
Mathematics Their Way Workjobs * An activity centered mathematics program that emphasizes concept development through use of manipulatives. Includes, patterning, place value, sorting and classifying, counting, graphing, and much more... A MUST for every Primary classroom.	Addison-Wesley Publishing Co. 2725 Sand Hill Road Menio Park, CA 94025
Cuisenaire Rods Student Activity Cards for Cuisenaire Rods Unifix Cubes Rod Trains (Cuisenaire) Pattern Block Tiles Geoboards & Abacuses Attribute Blocks * Catalog contains a variety of manipulatives, too numerous to list here.	Cuisenaire Company of America (see above listing)

MIQUON MATH & MORE (K-3) Miquon Math Materials form a developmentally appropriate instructional program. Emphasis on Cuisenaire Rods and individualized, nongraded instruction. Incorporates a variety of other manipulatives which include: Trading Chips, abacuses, Fraction Factory, Unifix Cubes, balances, containers for liquid measurement, tools for linear measurement, etc..

MIQUON MATH & MORE

Maureen B. Mc Avinue
Chance School, Inc.
4200 Lime Kiln Lane
Louisville, Ky. 40222
(502) 425-6904

Miquon Math Materials

The Miquon Math Materials were developed by Lore Ramussen at the Miquon School in Pennsylvania. Six student workbooks containing over 650 lab sheets for first to third grade students cover the following topics:

- Counting
- Odd-Even
- Addition
- Subtraction
- Multiplication
- Fractions
- Division
- Equalities & Inequalities
- Place Value
- Number Lines & Functions
- Factoring
- Squaring
- Simultaneous Equations
- Graphing Equations
- Geometric Recognition
- Length, Area & Volume
- Series & Progressions
- Grid & Arrow Games
- Mapping
- Clock Arithmetic
- Sets
- Word Problems

Miquon Math introduces all four arithmetic operations and work with fractions in the first year. By third year students are graphing algebraic equations. Miquon Math gives children the basic tools early so that they can be independent problem solvers from the first day of school. Miquon Math is based on the use of manipulatives and is designed to individualize learning. Children are encouraged to explore a variety of learning styles and often develope unconventional ways of arriving at correct results through their own investigations.

Cuisenaire Rods form the foundation of the Miquon Math Program. These wooden rods, one square centimeter in cross-section, increase by one-centimeter steps from one to ten centimeters in length, and are of different colors according to their lengths. Yet with them can be expressed an almost unlimited range of mathematical relationships. These rods guide the students from the concrete to the abstract by bridging the early experience gained through play and observation with the stage of systematic work.

M. Georges Cuisenaire, a Belgian school teacher, invented the Cuisenaire colored rods in the early 1930's. Since that time these remarkable tools have been used in private schools, public schools and schools for the blind throughout the world. They have been used effectively in programs for gifted students as well as programs for the mentally and emotionally handicapped.

These rods, when used with the Miquon Math Materials, afford the Primary teacher an individualized method of instruction well suited to the non-graded classroom setting. Other benefits include:

- Seeing & doing lead to conviction and retention.
- Students check their own results & correct their mistakes.
- Visual, muscular and tactile images are created.
- Creativity and problem solving are enhanced.
- Students work individually and at their own pace.
- Activities are developmentally appropriate.

What follows is a listing and brief summaries of other developmentally appropriate materials, and ordering information.

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ASSOCIATE SUPERINTENDENT

BOX IT or BAG IT Mathematics

Sample Lessons

FRACTIONS/DECIMALS

What kind of fractions can we write about our apples? (1/3 are red, 3/3 are edible, etc.)

PROBABILITY

If 5 red apples and 1 yellow apple were placed in a bag, which color is more likely to be pulled out first? Why? What would happen if repeated twenty times?

SORTING/GRAPHING

Sort apples brought in from home by children.

Graph apple types (with stems & without, size, color, weight, etc.)

STORY PROBLEMS

Create a BIG BOOK of apple story problems written by your children.

ESTIMATION/PLACE VALUE COUNTING

How many apple jacks in a ziplock bag? Estimate and count by tens and ones.

MEASURING

Place an apple in a ziplock bag. Weigh it daily and record observations. (Consider making a timeline with adding machine tape.)

PATTERNING

Place apples in a pattern according to an attribute (i.e. red, red, green, red, red, green)

EXTENDED NUMBERS PATTERN

Cut an apple against the grain to reveal a 5 point pattern. Create a class chart of cut apples (either, drawn or stamped in tempera paint) to show how to count by 5's. Explore multiplication and division by 5's.

HONEY

Have your children locate apple products in the newspaper. Work in cooperative groups to set out coins from a feely box to match the amount needed to purchase each product. What other coin combinations could be used?

GEOMETRY/SPATIAL PROBLEM SOLVING

Partners play "copy cat" to draw an apple tree. Each addition made by Partner A is reflected by Partner B resulting in a symmetrical apple tree (use of symmetry).

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SUCCESS in Reading and Writing

Sample Lessons

WORD STUDY

Children volunteer word phrases containing the letter clusters tr and pp to be recorded on class chart. Words are examined. Compound words and two syllable words are noted. Words related to apples are noted. Children copy a few favorite words and attempt to spell three of them independently.

Review day one chart. Children create new chart of word phrases containing the letter clusters le and or ap. Words are examined. Descriptive, two-syllable, and words related to apples are noted. Children copy a few favorite words and attempt to spell three of them independently.

WRITING

Children eat a slice of dried apple and write a descriptive paragraph about it following the steps of the writing process.

Children write a story following the steps of the writing process. Topic: "When I Woke Up ... My Head Was An Apple!!"

RESEARCH

Children work in groups of four to locate apple recipes in cookbooks. The recipe name, title, and page number are listed on paper. Information gathered is shared with other groups.

Children work in groups of four to locate words related to apples in the newspaper. Words are written on index cards and saved for a classification lesson on day 3.

RECREATIONAL READING

Children read independently from a variety of apple-related literature (fiction, non-fiction, poetry, etc.) Teacher conferences individually.

Children read independently from a variety of apple-related literature (fiction, non-fiction, poetry, etc.) Teacher conferences individually.

LITERATURE

Read Johnny Appleseed to class.

Read Johnny Appleseed to class

SUCCESS FOR EVERY CHILD ... EVERY DAY

BOX IT OR BAG IT MATHEMATICS with **SUCCESS IN READING AND WRITING**

BOX IT OR BAG IT MATHEMATICS is based upon the following beliefs:

- Young children learn best when they are actively involved in hands-on experiences with a variety of materials.
- Understanding takes time; children need many experiences in a wide variety of contexts to acquire knowledge.
- Children cannot be expected to notice the same things or come to the same levels of understanding at the same time; individual differences should be anticipated and respected.
- Language is central to learning. Children who can tell, draw or act out story problems to illustrate an operation or explain to others how they solved a problem are closer to understanding a concept than children who labor silently over worksheets as a daily routine.

BOX IT OR BAG IT MATHEMATICS is a set of resources which are:

- geared for developmentally appropriate K-3 classrooms.
- developed to create rich, activity-centered, language-based classroom environments.
- created to allow structure as well as freedom of choice for the teacher.
- designed with TEACHER RESOURCE GUIDES and concept packets to provide the teacher with monthly units, teacher directed lessons, and independent practice activities that help children extend and consolidate basic skills.
- in compliance with new NCTM Standards for Mathematics.
- conducive to curriculum integration.
- highly compatible with SUCCESS IN READING AND WRITING.

SUCCESS IN READING AND WRITING is based upon the following beliefs:

- Language arts should correlate, not separate reading and writing.
- Children learn best through an integrated curriculum based upon the whole language philosophy.
- Language arts instruction should follow a process which allows each child to move at a comfortable, developmentally appropriate pace.
- Children should be freed from the confinements of prescribed textbooks.
- Every child experiences success every day -- success for all -- thus creating a future culture of success.
- The teacher is the facilitator, setting the stage for learning.
- All forms of literature (including environmental literature) play an important role in learning.
- The gap between school and home can be bridged with these inexpensive, everyday materials.
- Children can enjoy learning, and teachers can recover the joy of teaching.

SUCCESS IN READING AND WRITING is a set of teacher resources which are:

- less expensive than basals, workbooks and textbooks.
- wide in variety. Printed materials common to life (such as newspapers, magazines, library books, cookbooks, telephone books, dictionaries, and encyclopedias) provide the source of learning.
- founded on the belief that children need to read and write using the daily language they speak.
- conducive to curriculum integration without the need for ability grouping in the non-graded primary school.
- highly compatible with BOX IT OR BAG IT MATHEMATICS.

For ordering information, see the provided MATH LEARNING CENTER catalog. For further cost and training information, contact Darrell Clukey, MLC Workshop, P. O. Box 1491, Portland, Oregon 97[illegible] 1-800-547-8887 ext. 3041.

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COMP: AN INSERVICE PROGRAM FOR EFFECTIVE CLASSROOM MANAGEMENT

COMP is a proactive program of classroom management that has demonstrated increases in student appropriate and on-task behavior and in student achievement.

This program guides teachers in working through steps needed to create a well-organized classroom, and approaches the process as teachers encounter it: first focusing on planning in a variety of key areas; next presenting strategies for implementing the plan and establishing good management policies; and finally focusing on methods for maintaining these procedures throughout the year.

COMP employs a variety of checklists, guidelines, and case studies in group process activities to guide teachers in directly applying concepts to their classrooms.

GOALS: COMP's primary goal is to help teachers improve their overall instructional and behavioral management skills through planning, implementing, and maintaining effective classroom practices. An additional goal is improvement of student task engagement and reduction of inappropriate and disruptive behavior through well-planned and appropriate academic tasks and activities.

NEEDS ADDRESSED: COMP addresses underlying needs of both beginning and experienced teachers for more professional development and inservice training in classroom and behavior management. It provides materials and inservice training both for teachers who wish to improve their management skills and for trainers who wish to provide professional development activities for teachers. Because many teachers, especially beginning teachers, regularly cite classroom management as an ever-present concern, COMP addresses an important need for schools, faculties, and students.

FRAMEWORK: COMP assumes *teaching* involves teaching both academic and social skills, and that both academic and social behaviors are developmental. Teachers who are successful at blending academic and social skills have students who tend to be on task, engaged in appropriate behavior, and who demonstrate higher achievement.

COMP is based on four premises:

1. Effective classroom management is proactive, not reactive.
2. In effective classrooms, management and instruction go together.
3. Students are active participants in the learning environment.
4. Teachers working together synergistically help one another.

COMP
CLASSROOM ORGANIZATION & MANAGEMENT PROGRAM

BACKGROUND: COMP is developed from a series of studies that first identified differences in teacher management practices that correlate with student outcomes of task engagement, appropriate behavior, positive attitude, and achievement. Next, these identified teacher practices were compiled in a manual and taught to teachers; Teachers used the management strategies and their students had significantly higher task engagement, less inappropriate and disruptive behavior, and higher academic success. Finally, school district personnel were trained to deliver the teacher training, and teachers trained by them produces the same positive results.

EXPERIMENTAL STUDIES OF CLASSROOM MANAGEMENT

STUDENT OUTCOME VARIABLES	RESULTS IN CLASSROOMS WHERE TEACHERS HAD CLASSROOM MANAGEMENT TRAINING
A. Students call-out frequently	– *significantly less*
B. Students frequently out of seats	– *significantly less*
C. Amount of inappropriate behavior	– *significantly less*
D. % of students off-task	– *significantly less*
E. Student success in class lessons	– *significantly more*

When teachers were trained in classroom management, students significantly improved in behavior and achievement.

FORMAT FOR DELIVERY: COMP is delivered initially as a training of teachers program. Teachers who have successfully implemented the program may then participate in a training of trainers program to deliver COMP within their districts. For teachers, the format is three days of workshop, preferably a two-day session followed several weeks later by a single day; a fourth day of advanced level work is optional. For trainers, a five-day workshop is required.

REQUIREMENTS FOR TEACHERS

TIME
- Two-day workshop session plus one-day follow-up
- Optional fourth, advanced level follow-up day

PERSONNEL
- Certified trainer - delivers workshop training
- On-site facilitator - serves as liaison with trainer for teacher implementation and for follow-up training
- 10 to 25 teachers - participate in activities directly relating to their own classrooms

MATERIALS
- One text per teacher:
  - Classroom Management for Elementary Teachers, Evertson, Emmer et al., 1989
  - or
  - Classroom Management for Secondary Teachers, Emmer, Evertson, et al., 1989
- One teacher manual/workbook per teacher:
  - Classroom Organization and Management: Planning, Implementing, and Maintaining for the Elementary Classroom, Evertson and Harris, 1989
  - or
  - Classroom Organization and Management: Planning, Implementing, and Maintaining for the Secondary Classroom, Evertson and Harris, 1989

COST
- $50 per teacher to cover materials

REQUIREMENTS FOR TRAINERS

EXPERIENCE
- Teacher training in COMP and classroom implementation of COMP preferred

TIME
- Five-day training session

PERSONNEL
- Certified trainer - delivers workshop training
- 5 to 10 trainees - participate in training activities

MATERIALS
- Two texts per trainee:
  - Classroom Management for Elementary Teachers, Evertson, Emmer et al., 1989
  - and
  - Classroom Management for Secondary Teachers, Emmer, Evertson et al., 1989
- Two teacher manual/workbooks per trainee:
  - Classroom Organization and Management: Planning, Implementing, and Maintaining for the Elementary Classroom, Evertson and Harris, 1989
  - and
  - Classroom Organization and Management: Planning, Implementing, and Maintaining for the Secondary Classroom, Evertson and Harris, 1989
- One set overhead transparencies

COST
- $200 per trainee to cover materials

Carolyn M. Evertson, Director
Alene H. Harris, Trainer
Box 330, Peabody College
Vanderbilt University
Nashville, TN 37203
(615) 322-8100
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Cooperative Learning met one of the most persistent needs in my classroom. For 15 years my colleagues and I have discussed the basic problem of what to do about the wide range of abilities in our classrooms.

Based on an intrinsic belief that students should be working together I used "groups" many times for learning. The results of the group work were often successful but I was always frustrated by the lack of involvement by many students while a handful of the highest achievers actually did most of the work.

Cooperative Learning research and classroom practice provided me with the structure that must be in place for the highest academic and social gains. Problems of traditional groups are minimized when students are structured to be individually accountable for their work while depending on their peers for the success of the group.

Perhaps the most practical reason cooperative learning appeals to me is that is closely resembles the adult work world. While working in groups with students of mixed ability, children learn to value the contribution of others. Academically, the level of understanding and retention is increased when students verbalize their learning to each other. Cooperative Learning groups provide a highly structured method of instruction for increased academic and social gains.

Most students perceive learning as an individual activity. It is good, therefore, to provide opportunities for students to learn the skill of verbalizing and sharing quality answers with each other prior to group work.

My favorite method for this is "Think-Pair-Share" by Hank Lyman. I like to use this technique folllowing teacher instruction to bring closure to a lesson. Traditionally we close a lesson by asking a few summary questions to the entire class. The same 4 or 5 hands of the highest achievers go up and the total class involvement has been very limited. In "Think-Pair-Share", the same questions are asked, however, each student must "Think" of the answer silently for 10 seconds; next the students "Pair" to discuss with the person sitting beside them (this is where the learning takes place by verbalizing our thoughts); finally the students "share" their answers with the entire class. There is a noticeable increase in total class involvement since students have talked about their answer with a peer, reducing the anxiety of answering in front of an entire class.

Try "Think-Pair-Share" and you will see the value of verbalizing learning. Students are the most powerful learning tool we have in the classroom. The research on using students effectively in cooperative groups has enlightened my perception of learning more than any other educational thought I have experienced as a classroom teacher.

THINK-PAIR-SHARE (By Hank Lyman)

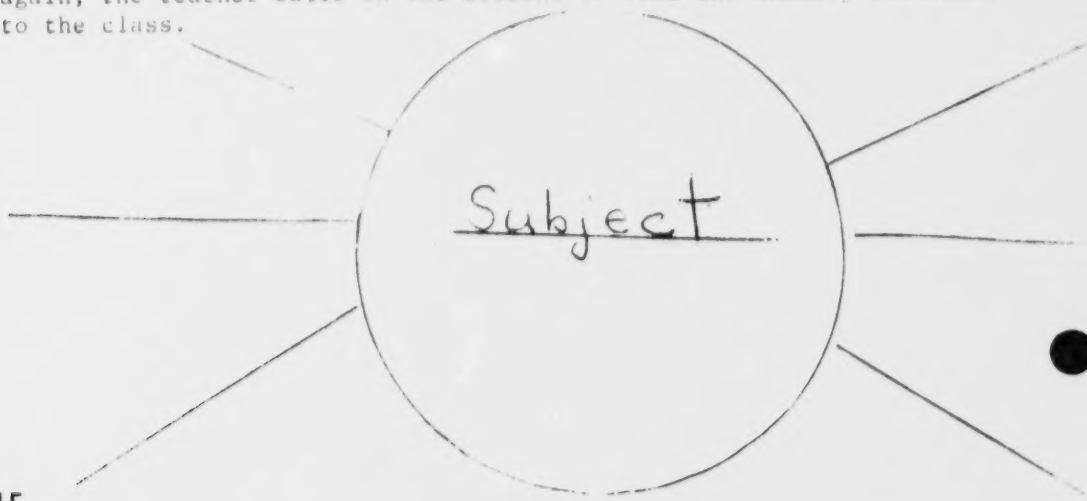
I like to use this technique following teacher instruction to bring closure to the lesson. Traditionally we close a lesson by asking a few summary questions to the entire class. The same 4 or 5 hands of the highest achievers go up and the total class involvement has been very limited. In"Think-Pair-Share" the same questions are asked, however, each student must "Think" of the answer silently for 10 seconds; next the students "Pair" to discuss with person sitting beside them (this is where the learning takes place by verbalizing our thoughts); finally the students "Share" their answers with the entire class. There is a noticeable increase in total class involvement since students have talked about their answers with a peer, reducing the anxiety of answering in front of an entire class.

NUMBERED HEADS TOGETHER

This technique is also used for closure or review of a lesson. Students are numbered 1, 2, 3, 4. The teacher asks a question and the groups of 4 must discuss the answer together. Only after the discussion does the teacher call out a number. If she calls out 1, then all of the #1 people in each group are responsible for giving the answer to the entire class. This technique increases the individual accountability of students to be involved at the point of discussion because they may be called on to represent their group to the class.

BRAINSTORMING

Students working in groups of 4 to fill in the following brainstorming diagram. Each student writes a piece of knowledge on a line of the figure. Upon completion everyone's answers are discussed. A summary sentence is written and each child in the group signs the paper. Once again, the teacher calls on one student to read the summary statement to the class.



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COPE: Cognitively Oriented Pre/Primary Experience

COPE is a program that aids in the growth and development of the young child's intellect by providing the materials and activities that give the right stimulation at the right time.

The program's wide range of activities and objectives (3 to 7 years developmentally) make it especially appropriate for use in ungraded primary programs.

Based on a child's development at entry he/she works through a series of levels to reach advanced objectives in the areas of perceptual-motor development, conceptual-language development, and early mathematics development. Children pursue the objectives through individualized, small-group and large-group instruction as well as in free-inquiry situations.

Materials needed for instruction in each of the developmental areas are provided in self-contained kits that include teacher manuals with sequenced lessons, curriculum placement materials, manipulatives, activities cards (lotto games, puzzles), and classroom management materials.

Teachers may use any or all of these kits, depending on program needs. That is, they may choose to implement one component (ex. conceptual language) at a time, adding the others at a later date.

In addition to the kits, lesson manuals with developmentally appropriate units of instruction in science, social studies, health/safety, art, and music are available.

Teachers and para-professionals who attend a COPE workshop not only learn to use the curriculum materials but come to understand a complete classroom management system that helps them put the program to use in their own particular teaching situations.

Cost Information:

KINDERSAY STARTER SET - (Language Development) 72 lessons in manuals, curriculum placement, and picture vocabulary file	$ 55.00
KINDERSAY KIT - Complete Kit - 72 lessons on envelopes, curriculum activities cards, picture file, colored shapes, classroom charts, teacher lesson-manuals, manipulatives, and placement	$135.00
KINDERMATH I - 90 lessons, 50 counting manipulatives, numeral and set cards, placement, classroom chart	$ 60.00
DELUXE KINDERMATH - KINDERMATH I Kit, Expanded Placement, extra sets of manipulatives	$ 85.00
COPE KINDERSEE KIT - (Perceptual Motor Development) 64 lessons on envelopes; games & puzzles on card stock; colored shapes; teacher manuals; classroom charts; manipulatives; placement	$125.00
COPE COMPLETE CURRICULUM SET - 12 teacher manuals with over 350 lessons	$125.00
ASSISTANT TEACHER MANUAL - guide for training paraprofessionals, parents & other classroom assistants	$ 12.00

Sole source for materials:

PRIMAK, P. O. BOX 701, Devon, PA 19333

Early Prevention of School Failure

114 North Second Street
Peotone, Illinois 60468

A Nationally Validated Developer-Demonstrator Model Project. Disseminated Nationally and Internationally.

Luceille Werner, National Program Director

Curriculum Services
114 North Second Street
Peotone, Illinois 60468

Phone: (312) 258-3478

THE EARLY PREVENTION OF SCHOOL FAILURE

- Is validated as an innovative, cost effective, statistically significant, exportable, Nationally Validated Program.
- Is translated into several languages and has been validated as a Developmental Program, Chapter I and Migrant Program.
- Has been replicated by adopter districts in 49 states and 3 foreign countries.
- Helps SCHOOL DISTRICTS make more effective use of resource personnel.
- Shows TEACHERS how to identify learning styles and needs of all children as they enter school and provides in-service on effective teaching strategies.
- Helps CHILDREN master the pre-academic skills related to reading success.
- Helps PARENTS understand the importance of early identification of learning needs and effective ways to help their children.

Program Evaluation

There are annual reviews, as well as several ongoing longitudinal studies, that provide evidence that the program works. New schools that become involved in the program must agree to submit pre-post test data the first year they field test the ESPF Program.

This Nationally Validated Program has received numerous recognition and approvals since the first national validation in 1974. Several of the more recent recognitions include: National Recertification, 1984; Recognition by U.S. Office of Education and by numerous states, 1984-87 as an effective "program to address the 'at risk' students". Awards include: Educational Pacesetter Award presented by the President's National Advisory Council on Supplementary Centers and Services, 1973; United States Office of Education for Outstanding Education Contribution to ESEA, Title I/NDN, 1978; Recognition as an Outstanding National Migrant Program, 1986.

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Most Unique Element of the Program

The nationally validated program continues to produce documentation that it works for children in all types of settings and where English may be a child's second language. The program is committed to maintaining high expectations for the achievement of all students regardless of family background or social class characteristics.

Program Funding

The EPSF Program is funded by the U.S. Office of Education for dissemination to other schools through the National Diffusion Network. In addition, selected states have identified that the EPSF Nationally Validated Program qualifies for funding through Chapter II, Chapter I, Bilingual, Special Education, Gifted, "At Risk" and Migrant monies. The California Legislature has funded the program since 1985 at over $400,000.00 yearly.

ADOPTER BUDGET

EPSF Computer Software--One per Corporation ---------- $ 165.00

Number of Staff to be Trained: ---------- _____ x $11.00 = $ _____

Screening and Conferencing Manual ($5.50)
Implementing a Developmental Program ($5.50)

Number of Screening Teams: ---------- _____ x 275.77 = $ _____

Preschool Language Kits (2 @ $ 85.00
Screening Manual (4.00)
Motor Activity Scale ($5.00)
Peabody Picture Vocabulary Test--PPVT Form L ($42.50)
Developmental Test of Visual-Motor Integration Manual & Test Booklets ($ 54.27)

Number of Teachers using program: ---------- _____ x $93.00 = $ _____

Management Guides--Set of five ($ 35.00)
Building Readiness Through Perceptual Skills ($ 8.00)
Portable Resource Kit Guide ($7.00)
Recipes for Homemade Teaching Materials ($ 7.00)
Parent Activity Cards ($36.00)

All items are purchased from the EPSF Office in Peotone, Illinois with the exception of the Developmental Test of Visual-Motor Integration (VMI) which is available from Modern Curriculum Press, 13900 Prospect Road, Cleveland, OH 44136 and the Peabody Picture Vocabulary Test (PPVT) which is available from American Guidance Service, Inc., Publishers Bldg. Circle Pines, MN 55014. Also, the VMI and the PPVT may already be available somewhere within your schools.

There are NO consumable materials to purchase each year.

Emerging Literacy and Technology

Michael Bidwell
Instructional Technology Consultant
Kentucky Department of Education

A tool for developing whole language proficiency, the computer can provide children hands-on experiences with the world. Several major computer-based programs, geared specifically toward young children, boast significant gains in language learning for all children through emphasis on self-paced reading and writing experiences. This model practices session will highlight the philosophy of these programs and share insights into their strengths and weaknesses with regard to multi-age grouping, developmental appropriateness, continuous progress and interdisciplinary learning.

Through demonstration and discussion, participants will also have the opportunity to learn the degree to which these programs can be modified (and stay within the parameters of the program), where various examples are found in the Commonwealth, and how to get additional information for further investigation.

Participants teaching in districts where these programs such as Writing to Read or Apple Early Learning, et. al., are used, are requested are invited to come with questions, concerns or success stories to share.

For more information, contact:
Michael Bidwell
Kentucky Department of Education
1809 Capital Plaza Tower
Frankfort, KY 40601
(502) 564-2672

To guarantee high levels of mastery, teachers should:

1. Elicit rapid overt responses from students during instruction and as they practice. (Students learn to do by "doing" and "saying.") The overt responses requested of students in skill groups are most often in unison. Unison and group responses (1) offer security to the unresponsive students as they learn to respond with others and (2) motivate all students to respond more enthusiastically and rapidly.

2. Keep every student on task. Prevent students from procrastinating responding. Supervise their practice time (time to master) and monitor their responses during instruction.

3. Increase the rate of responses of all students but especially those who have been least rapid; expect slower responding pupils to complete a task in less time than faster students.

4. Expect every pupil to master at high (83-100%) levels of accuracy with rate as another criterion. Allow students to move on in skills sequences as rapidly as they achieve mastery.

5. Model for students during instruction so that they make fewer errors as they learn, and hence are able to discriminate fine differences in their work when compared to others; prompt students as they learn and practice. Then gradually fade the prompts until students respond correctly without assistance. Move from a model match level of learning to a memory match level and then to a recall level.

6. Diagnose and prescribe instantly when incorrect responses or no responses occur.

7. Reinforce correct responses and reteach if students make incorrect responses or do not respond. Ignore behavior that is not appropriate. Employ only those techniques that build self-esteem. Eliminate sarcasm and criticism in teaching. Never demean. Use the behavior management techniques that most effectively extinguish incorrect responses, reinforce correct responses and maintain them at the rate and mastery levels established.

8. Correlate language skills activities to increase the number and types of student responses (e.g., writing and spelling that which the pupil reads). Emphasize the development of the skills of expressing ideas (speaking and writing) as well as those of understanding ideas (listening and reading). Teach reading as a means and not an end—as a way to learn to speak and write more effectively and to serve personal and other needs.

Dr. Elhna R. Reid, Director • 3310 South 2700 East • Salt Lake City, Utah 84109 • (801) 486-5083

PROJECT

EXEMPLARY CENTER FOR READING INSTRUCTION (ECRI). An inservice program for teachers of students of all ability levels in reading and language skills, with expectations of 95-100% mastery. It is appropriate for students grades K-12, and adults, mono- or multilingual, in suburban, urban, and rural areas, and at all socioeconomic levels.

DESCRIPTION

ECRI teaches teachers to: utilize eight effective teaching strategies that ECRI identified in research as critical to pupil success, teach word recognition, comprehension and study skills during reading instruction, and organize classroom time so it is efficiently used by teachers and students. Teacher behaviors identified include abilities to: elicit correct responses from nonresponding pupils, establish high mastery levels of responses with performance and rate as criteria, correlate language arts activities to increase responses and save time, use efffective management and monitoring systems, and diagnose and prescribe instantly when errors or no responses occur. Techniques are incorporated into specific dialogues or directives during word recognition, comprehension, study skills, grammar, spelling, dictation, creative writing, and penmanship instruction. A student progresses in practicing new skills and in working with materials independently of other students. No student waits for another. Individual conferences are held. Mastery of the skills is tested.

Students' attention is sustained with the momentum of the instruction and reinforcement offered during practice time. Overt responses help students remain on-task. The structure of the scheduling, record keeping, and multisensory instruction motivates students.

Instruction is provided by ECRI so teachers can use the essential teacher behaviors, develop the management system for mastery and individualization, and teach reading and language skills effectively.

REQUIREMENTS

A five-day preparatory inservice education program with one ECRI staff person for 30-35 trainees. Program includes lecture, practice sessions, and preparation of materials. (Following the seminar, periodic visits by ECRI staff to trainees' classrooms to demonstrate, model, and monitor could be arranged.)

Existing district reading materials are used. Supplies for teachers and pupils are those usually found in schools. ECRI has 16 teacher texts that are used by teachers during inservice and as they teach.

COST

ECRI staff time: $400 a day plus expenses. A catalog will be sent upon request to describe the teacher texts. A basic set costs $158 including shipping. Each teacher needs a set. Awareness materials are available at no cost. Videotapes of teachers using the techniques can be rented or purchased.

CONTACT

Dr. Ethna R. Reid, Director; Exemplary Center for Reading Instruction; 3310 South 2700 East, Salt Lake City, Utah, 84109. (801) 486-5083 or (801) 278-2334.

MODEL PROGRAM

Name of Model Program: High/Scope Developmental Curriculum

Site of Model Program: Saffell Street Elementary
Lawrenceburg, Ky. 40342
Max Workman, Principal

DESCRIPTION:

In Anderson County we saw a growing problem of children coming to school who were not "ready". Many 5 year olds were not ready for our kindergarten curriculum, many 6 year olds were not ready for 1st grade and so on. We finally decided that maybe it was we who were not "ready" to receive the children and that we needed to get ready. We wanted to find a curriculum in which all children could be successful, learn, and develop their full potential.

At this same time at the Anderson County Regional Training Center we were searching for an appropriate curriculum model to offer to the school districts in our region as they began to serve and prepare to serve preschool handicapped children.

The High/Scope curriculum was one that came to our attention. High/Scope emphasis is "active" learning, learning by doing, and full integration of children regardless of their developmental maturation. We also learned that High/Scope is an appropriate curriculum for children ages 3 through 8.

The Anderson County RTC began to offer training in the High/Scope Curriculum model and many of our Anderson County teachers have been through this training.

Today this curriculum model is being implemented in many classrooms in Anderson County. The Anderson County Regional Training Center uses these classrooms as model program sites and supports teachers from other districts who wish to come to visit through substitute teachers and mileage reimbursement.

The High/Scope Curriculum is an open-framework model derived from Piagetian theory. Through designated key experiences for children, teaching and parenting strategies, and child-observation materials, the curriculum provides a decision-making framework. Within this framework, teachers design a classroom program that reflects the expressed needs and interests of the children being served. This approach emphasizes identifying where each child is comfortable developmentally and then designing appropriate experiences to move him along the developmental ladder. Basing their instruction on this philosophy teachers initiate developmentally appropriate experiences in the classroom that reflect the basic long-range goals of the program. These

goals include development of children's ability in the areas of communication skills, ability to work with others, to make decisions, to become independent learners as well as achieve academic milestones. Using the High/Scope Curriculum encourages children to develop their ability to apply reasoning skills in a wide range of naturally occurring situations which are part of the school day. The teachers role is to set up the environment, support the children's decisions and encourage them to extend their learning. Academic skills such as reading and math are taught in small groups called workshops. Children not being directly instructed in a workshop are encouraged to pursue "active learning" in a variety of learning centers that both support the lessons of the workshops and extend the child's natural desire to learn and develop concepts through working with a variety of hands on materials.

REQUIREMENTS:

A five day training in High/Scope is required. This training is offered through the 5 Early Childhood Regional Training Centers.

COST:

Training is free from RTC's. Cost for materials to set up learning centers would vary.

CONTACT:

Anderson County RTC
Jane Ellen Myers, Director
103 North Main
Lawrenceburg, Ky. 40342
502/839-3406

Ashland Independent RTC
Steve Gilmore, Director
1420 Central Avenue
Ashland, Ky. 41101
606/327-2725

Berea Independent RTC
Peggy Kelly, Director
3 Pirate Parkway
Berea, Ky. 40403
606/986-8446

Calloway County RTC
Dr. Nancy Lovett, Director
Dr. Taylor Hollin, Director
Box 800
Murray, Ky. 42071
502/753-3033

Simpson County RTC
Bill Porter, Director
Box 467
Franklin, Ky. 42135
502/586-8877

THE HIGH/SCOPE K–3 CURRICULUM

The Basic Approach

The High/Scope K-3 Curriculum, an innovative, open-framework educational program, seeks to provide broad, realistic educational experiences for children. The curriculum is geared to the child's current stage of development to promote the spontaneous and constructive processes of learning and to broaden the child's emerging intellectual and social skills. Teachers in open-framework classrooms encourage active, generative, problem-focused learning, rather than the passive rote learning that can result from a preponderance of direct instruction in the classroom. Children become actively engaged in the learning process, exploring materials of interest in a self-directed manner, initiating activities, and taking responsibility for their outcomes.

However, unlike the child-centered classroom approach, where learning initiatives come only from the children, the High/Scope K-3 Curriculum, through a **plan-do-review**™ sequence and through content-focused instructional workshops, encourages both students and teachers to generate learning initiatives. In following the plan-do-review sequence, children choose, organize, and evaluate learning activities, under the observant eyes of a teacher trained to recognize a child's current level of development. Inasmuch as planning is a crucial component in problem-solving, the plan-do-review sequence prepares children to make effective responses to challenging situations, with the principal aim of helping them acquire a deeper and broader understanding of the world in which they live.

Teachers maintain an active role in the High/Scope K-3 Curriculum by arranging the room to promote the children's active learning, by making plans and reviewing activities with children, by interacting with and carefully observing individual children, and by leading small- and large-group workshops and other learning experiences. **The teacher's fundamental role is to assist the child's natural process of inquiry.**

Because the young child's preferred interaction with the world is through direct sensory experiences, **manipulation** and representation of direct experience become the principal means by which children form concepts and ideas. To support this **active learning process**, the High/Scope K-3 Curriculum requires a learning environment rich in opportunities for children to work with a variety of manipulative materials, to formulate practical problems, and to make thoughtful efforts to solve them. To facilitate this active learning process, the High/Scope K-3 Curriculum provides developmentally sequenced guidelines, called **key experiences**™. Teachers include these key experiences in their daily planning and teaching to foster learning activities that are appropriate to each child's developmental level.

Further, the High/Scope K-3 Curriculum views learning as a **social experience** that involves the entire class. Thus, the curriculum approach encourages both students and teachers to engage in cooperative learning experiences.

Psychological Foundations

The High/Scope K-3 Curriculum applies the insights of child development studies to the problem of understanding and supporting the educational process of children in early elementary grades. The "developmental" view of children's emerging cognitive processes has had a number of proponents in modern times, the most notable of whom is the Swiss psychologist and philosopher Jean Piaget. The High/Scope K-3 Curriculum incorporates the general Piagetian idea that education should be in accord with the child's particular state of development as well as his or her spontaneous processes of learning.

Perhaps more important, the High/Scope K-3 Curriculum embodies the Deweyan-Piagetian view that genuine progress in learning and development

Highlights of the High/Scope K-3 Curriculum

Foundations for Active Learning

- Understanding young children's learning styles
- Establishing an appropriate learning environment

The High/Scope Curriculum Approach

- Using a whole language approach to help children develop emerging listening, speaking, writing, and reading skills
- Using manipulative and mental mathematics to help children gain an understanding of number, geometry and space, measurement, problem solving, and symbolic representations
- Helping children explore science concepts through activities in the broad areas of life and environment, structure and form, energy and change
- Integrating social studies, social skill development, music and movement, and the arts into the High/Scope K-3 Curriculum

The High/Scope Plan-Do-Review Process

- Encouraging and supporting children's planning and decision making
- Helping children follow through on their plans and complete their projects
- Helping children review and reflect on what they've done

Assessing Children's progress

- Using classroom observations, High/Scope's key experience checklists, student portfolios, and the High/Scope Progress Report to assess each child's learning and development

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will not occur unless children are actively involved in the process. In support of this view, the High/Scope K-3 Curriculum encourages children's active attempts, in light of their own choices and interests, to construct knowledge and extract meaning from their world by working with, manipulating, and transforming materials and ideas. Inspired primarily by the child development theories of Piaget in the areas of logic and science, and by other researchers in emergent literacy, **the fundamental premise of the High/Scope K-3 Curriculum is that children are active learners who learn best when they make their own choices and decisions, engage in problem solving, and express their own thoughts, feelings, and conclusions.** In broader terms, the curriculum supports the notion that education should facilitate and extend the child's spontaneous attempts to make sense of the world.

Specific Objectives

Both parents and teachers who participate in the High/Scope K-3 Curriculum seek to develop in children a broad range of skills, including the problem-solving, interpersonal, and communication skills that are essential for successful living in a rapidly changing society. The curriculum encourages student initiative by providing children with materials, equipment, and time to pursue activities they choose. At the same time, it provides teachers with a framework for guiding children's independent activities toward sequenced learning goals.

The teacher plays a key role in instructional activities by selecting appropriate, developmentally sequenced materials and by encouraging children to adopt an active, problem-solving approach to learning. In working with the children in this manner, the teacher first focuses on concrete experiences and then moves on to more abstract ones, relying throughout on each child's own language, experiences, and interests in formulating ideas. Based on observations of individual students, the teacher adjusts the teaching strategies as necessary to encourage children's active problem solving and to initiate or extend action-oriented learning processes.

This teacher-student interaction—teachers helping students achieve developmentally sequenced learning goals while also encouraging them to set many of their own goals—distinguishes the High/Scope K-3 Curriculum from direct-instruction and child-centered curricula. Teachers who implement the High/Scope Curriculum must be well informed about the growth and development of children, must be able to recognized individual differences in their students, and must be willing to use instructional methods, materials, and assessment techniques that support child-initiated learning.

Summary

High/Scope K-3 Curriculum requires that teachers plan instructional activities on a daily basis and encourages students to initiate many of their own learning experiences, to interact cooperatively and productively with one another as well as with teachers, and to plan individual study projects. Students use their prior experiences and interests to initiate and construct their learning experiences, and teachers actively support and guide them in these efforts. The High/Scope K-3 Curriculum approach has three basic components:

- **Active participation of children** in choosing, organizing, and evaluating learning activities, which are undertaken with careful teacher observation and guidance in a learning environment replete with a rich variety of materials located in various classroom learning centers
- **Regular daily planning by teachers** in accord with a developmentally based curriculum model and careful child observations
- **Developmentally sequenced goals, materials, and assessment techniques** for children based on the High/Scope key experiences □

K-3 Curriculum and training materials available from High/Scope Press

Print Materials

- High/Scope K-3 Curriculum Series: *Language and Literacy*
- High/Scope K-3 Curriculum Series: *Mathematics*
- High/Scope K-3 Curriculum Series: *Science*
- High/Scope Progress Report & Student portfolio

Videotapes

- *Active Learning*
- *Classroom Environment*
- *Language and Literacy*
- *Mathematics*

1990-91 Demonstration Sites

South Side Elementary School,
Crestview, Florida
Contact: Patricia Boyles
904/833-3180

Amanda Elzy Elementary School,
Leflore County Schools
Greenwood, MS
Contact: Ann Adams
601/453-8566

Fairfield Court Elementary School,
Richmond Public Schools
Richmond , VA
Contact: Diane Watkins
804/780-7800

For Training and Cost Information

Contact Clay Shouse
Office of Development and Services
High/Scope Educational Research Foundation
600 North River Street
Ypsilanti, Michigan 48198
313/485-2000
FAX 313/485-0704 □

THE KENTUCKY ACTIVITY-CENTERED ELEMENTARY SCIENCE INITIATIVE

(Ky ACES)

A Partnership Project Sponsored by
The Kentucky Science and Technology Council, Inc.
and
The Kentucky Department of Education

PROGRAM DESCRIPTION

The Kentucky Activity-Centered Elementary Science Initiative (Ky ACES) is an instructional improvement project co-sponsored by the Kentucky Science and Technology Council and the Kentucky Department of Education. The purpose of the project is to identify a modular set of activities and investigations for elementary science, supported by a complete kit of science materials and implemented through a comprehensive staff development program. Because of its modular approach, the ACES materials can be integrated into an existing elementary curriculum, or can stand alone as the basic science program for a school.

ACES utilizes an activity-centered, problem solving approach which emphasizes development of science process skills within three basic science disciplines: life science, earth science, and physical science. The goals are consistent with the six goals for Kentucky students established by the Council on School Performance Standards and written into the Kentucky Educational Reform Act of 1990. The concepts and skills are aligned with the National Assessment of Educational Progress (NAEP) content strands and are consistent with recommendations of national elementary science reports. The integration of science with other content areas and with science/technology/society issues are also emphasized. A performance assessment will culminate each year's work, providing individual student data as well as a measure of group achievement.

The activities and materials are configured so they can be incorporated into a local district's existing science program, if desired. Content and process objectives, as well as recommended instructional materials and strategies, are clearly identified for each module. The program utilizes a "multiple resources" approach, identifying the best activities from numerous sources, and encouraging the use of computers, textbooks, and other media to support and extend the concepts developed in the activities. The emphasis on direct, hands-on student experiences allows teachers more flexibility in meeting the learning styles of individual students.

For more information about the Ky ACES Initiative, contact:

Michael N. Howard
Director of Education Programs
Kentucky Science and Technology Council, Inc.
P.O. Box 1049
Lexington, Kentucky 40588
(606) 233-3502

or

Dr. Stephen A. Henderson
Associate Superintendent for Instruction
Kentucky Department of Education
1724 Capital Plaza Tower
Frankfort, Kentucky 40601
(502) 564-3010

PROGRAM FEATURES

The strengths of the ACES program can be summarized as follows:

* based on goals that are consistent with the Kentucky Educational Reform Act.
* addresses content and skill objectives included in the National Assessment of Educational Progress (NAEP).
* identifies the concepts (or "big ideas") accepted as important for elementary science instruction.
* maintains and activity-centered focus, with direct student experience as the nucleus of the instructional process.
* consists of a series of articulated modules for grades K-6, allowing flexibility and future expansion.
* stresses the use of high interest, "teachable" units.
* emphasizes development and refinement of science process skills and thinking skills appropriate to each grade level.
* uses a variety of instructional strategies, and identifies additional resources to enhance and extend the concepts developed through the activities.
* utilizes performance assessments to evaluate student and class progress.
* integrates development of science skills and concepts with skills and concepts of other subject areas, applying them to students' everyday lives.
* packages all materials needed for the activities into a self-contained classroom kit.
* implemented through a comprehensive staff development program involving both the instructional staff and the building principal.

PROGRAM GOALS

After completing the ACES program, students will:

* Use critical thinking and information finding skills to analyze and solve problems.
* Exhibit curiosity about and appreciation for the world around them and the role that science plays in helping to understand it.
* Demonstrate an understanding of some of the important concepts of science, as well as the connections between those concepts and their everyday experiences.
* Work individually and in groups to deal responsibly with issues and problems.
* Develop and demonstrate science process skills, such as observing, communicating, classifying, ordering, measuring, collecting data, graphing, inferring, predicting, identify-ing variables, forming hypotheses, and designing experiments.
* Use oral, written, and mathematical forms to communicate experiences with scientific phenomena.
* Explain connections between scientific ideas, technological applications, and the way our society functions.

* Maintain an interest in science, possibly lead-ing to a science or technology related career.

Keyboarding, Reading, and Spelling (KRS) (formerly Basic Literacy Through Microcomputers). A program teaching students to use a microcomputer keyboard in the process of learning to type, read, and spell. Mastery is built into the program.

Audience Approved by JDRP for students grade one through grade six. Supporting data also were gathered from students in grades 7-8.

Description *Keyboarding, Reading, Spelling* is an instructional program that enhances reading achievement and keyboard skills. The program uses a phonetic approach to reading, with the microcomputer being an essential component of the instructional process. The computer does not replace the teacher in instructing, but rather provides opportunities for students to master skills through reinforced practice.

Students in grade 1, using the typewriter version of the program, demonstrate reading achievement scores, as measured by the CAT, that are higher than scores of students in a true control group, at a statistically significant level ($p<.01$).

Students in grade 3, using the micro-computer version of the program, demonstrate reading comprehension and speed-and-accuracy scores, as measured by the *Gates-MacGinitie Reading Tests*, that are higher than scores of students in a non-equivalent control group, at a statistically significant level ($p<.01$). Typewriting and computer usage skills were also statistically significant for the experimental group when compared to the control group. Visual and auditory memory skills improved significantly.

In a 1986 study significant growth ($p<.01$) was demonstrated in reading and language skills as measured by the *Metropolitan Achievement Test*, and in computer usage and typing, for the KRS experimental students in grades one through six compared to a control group.

The program works whether one or more computers are available to a class or whether there is a computer lab in the school. Although the teacher teaches some skills, students are independent as they work at the computer.

The basic program which includes four disks costs $180.00. Five sets of the four disks cost $468.00.

Requirements A one- or two-day preparatory inservice education program conducted by a Reid Foundation staff person is desirable. The program includes lecture and practice sessions. It would be advantageous to the trainees to have Apple IIe, IIc, or IIgs computers available. It is desired that data from pre- and post-tests are sent to the Developer-Demonstrator. KRS is also available on 3½" and 5¼" disks for IBM PC and compatible computers. Trainees can use either Apples or IBM PC compatible computers.

Services Awareness materials are available at no cost. Visitors are welcome by appointment at project site and additional sites in other states. Project staff is available to attend out-of-state awareness meetings. Training can be done at project site or at adopter sites. Awareness videotape is available for rental. At initial awareness sessions, time is provided without cost, and expenses are negotiated. Training and awareness can take place the same day.

Contact Ethna R. Reid; 3310 South 2700 East, Salt Lake City, UT 84109; (801) 486-5083.

Product Code

KEYBOARDING, READING, SPELLING (KRS) PRICELIST
formerly known as
Basic Literacy Through Microcomputers (BLTM)
for Apple IIe, IIc, or IIgs Computers
and IBM PC and compatible computers

M19	KRS Program, full set with four disks (Apple Computers)	$180.00
M195	KRS Program, full set with four disks (IBM PC and compatible – 5¼" disks)	180.00
M193	KRS Program, full set with four disks (IBM PC and compatible – 3½" disks)	195.00
M20	KRS Program, full set with four disks plus one set of 4 backup disks (Apple)	270.00
M205	KRS Program, full set with four disks plus one set of 4 backup disks (IBM – 5¼" disks)	270.00
M203	KRS Program, full set with four disks plus one set of 4 backup disks (IBM - 3½" disks)	300.00
M21	Lab Pack (Apple) Includes Teacher's Guide and other printed materials plus 5 sets of the four disks	468.00
M215	Lab Pack (IBM – 5¼" disks)	468.00
M213	Lab Pack (IBM – 3½" disks)	543.00
M22	Additional Teacher's Guide (Apple)	10.00
M221	Additional Teacher's Guide (IBM)	10.00
M23	Additional Practice Reading, Speed, Accuracy (Apple or IBM)	10.00
M24	Demonstration Packet (Apple)	40.00
M25	KRS flashcards (337 flashcards for 10 units)	35.00
M26	KRS keyboard charts (includes other charts such as proper posture and hand position)	10.95
M27	KRS Awareness Videotape Rental (14 minutes)	20.00
M28	KRS Awareness Videotape Sale (14 minutes)	20.00
M29	KRS Awareness Videotape Rental (30 minutes)	30.00
M30	KRS Awareness Videotape Sale (30 minutes)	75.00
P453	KRS Brochure	1.00
IA16	Blue Ribbon Awards for passing Mastery Tests - "I Passed a Mastery Test -- Special Super Learner"	.30/ea

M31 Apple II Plus program is still available at $198
M32 Backup Disks (set of four) for Apple II Plus program are $60.

TEACHER TEXTS REQUIRED TO TEACH NEW WORDS, LETTER NAMES, SOUNDS AND ELICIT RESPONSES:

T1	Teaching Letter Names and Sounds	7.95
T2	Teaching New Words Through Phonics	8.95
T3	Teaching New Words Through the Word Structure Methods	10.95
T7	Eliciting Responses and Teaching Proofing Through Dictation	7.95

10% shipping fee for KRS programs.

KIDS KITS

Kids Interest Discovery Studies KITS

A Multimedia Approach to Gifted and Talented, Special Education, Regular Classroom Instruction, and Library Media Center Activities.

The Program

KIDS KITS, organized sets of multimedia materials, are designed to elicit active student involvement in learning by motivating students of all abilities in grades one through eight to ask and answer questions on topics of interest to them. Each kit includes high interest materials which vary in terms of difficulty and learning style. Kits can be used in the library media center, in the classroom, or in special program areas. Students prepare a product or presentation to share their learning in a a variety of ways.

KIDS KITS Promotes

- Thinking and questioning skills
- Independent, self-directed learning
- Research and study skills
- Awareness and use of learning resources
- Enthusiasm for research activities

Media for Kit Development

- books
- filmstrips
- tapes
- models
- slides
- computer software
- study prints
- real objects
- transparencies
- student projects

Evaluation Results

Students with higher levels of kit usage demonstrate:

- greater specificity, complexity, and multiplicity in their descriptions of the purpose of their learning activities
- more awareness and use of learning resources
- greater number of applications of the information gained
- greater enthusiasm and involvement in their learning activities

All evaluation results were statistically significant at the .001 level.

Materials and Services Available

- Program Manual
- Discovery Cards
- Activity Cards
- Kit Development Guidelines
- Staff Training
- Evaluation Guidelines
- Technical Assistance
- Follow-up Contacts
- Overview videotape

Implementation Requirements

- Staff member(s) to serve as program coordinator/ team
- Development of 6-10 kits – cost depends on materials already available
- Appropriate audiovisual equipment

For More Information

Jo Ann C. Petersen
Project Director
The KIDS KITS Project
13200 W. 32nd Avenue
Golden, CO 80401
(303) 279-7418
Or your state facilitator

BARBIE HAYNES
STATE FACILITATOR
NATIONAL DIFFUSION NETWORK
CAPITAL PLAZA TOWER
FRANKFORT, KY 40601
(502) 564-6720

Fran Catlett, Librarian
Goshen Elementary School
P. O. Box 116
Goshen, Kentucky 40026

KITE

Certified Trainer: Cheryl S. Smith

KITE (Kindergarten Integrated Thematic Experiences) is a success-oriented program which integrates the entire kindergarten day through developmentally appropriate thematic units emphasizing language, cognitive, physical and social-emotional development. KITE incorporates the key elements of two previously validated kindergarten programs - *Alphaphonics* and *Astra's Magic Math*.

AUDIENCE Approved by PEP for kindergarten in both regular education and educationally disadvantaged, at risk and Chapter I students. In addition to traditional classroom settings, this program has been used for migrant, first grade, preschool, special education, bilingual education (Spanish) and ESL students in primary grades.

DESCRIPTION KITE increases reading and math achievement by promoting the acquisition of basic reading and problem-solving math skills while working positively to develop children's self-images.

This program effectively combines child-initiated and teacher directed activities within a planned environment. This multi-sensory program utilizes oral language, manipulation, and writing activities.

The varied KITE experiences integrate art, music, literature, social studies, science, drama, and physical education experiences that appropriately offer a planned balance of child-initiated and teacher directed activities.

The program utilizes discovery, mystery, and memory aids with a game-like presentation of materials and positive teacher feedback. There is positive recognition of and a belief in the ability of each child to succeed. Literature, large poems, and math charts are used for whole language development. The program includes interactive large and small group activities and a minimal use of worksheets. Interest is stimulated by the use of imaginary outer space characters -- Astro and Astra. Through developmentally appropriate activities children use concrete objects, have meaningful interactions with materials, adults, and each other; and experience structured and informal oral language. These interactions enable children to assimilate abstract concepts.

The KITE Theme Pack provides essential program motivation, contains lesson materials for the day and stimulates curiosity in the children. The children believe Astro and Astra are the source of homework and badges awarded to them. Astro and Astra display feelings of happiness, sadness, fear, excitement, and frustration, thus enabling the children to identify with them. The program promotes a thematic, developmentally appropriate, integrated curriculum.

Interpretation of PEP submittal results The data presented in this document provide strong testimony to the continued effectiveness of KITE. Data from 605 KITE students drawn from 25 different classrooms across several years of administration consistently show gains *in the area of 30 NCEs or 50%ile points* over the normative expectation. Economically disadvantaged students who enter kindergarten with an academic disadvantage, leave kindergarten to embark on their scholastic years with mathematics and reading abilities above the national average.

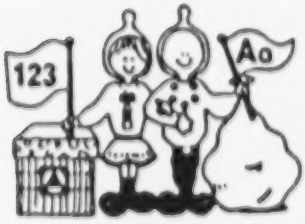
Start up costs for basic non-consumable materials - KITE are $370 per classroom. Additional non-consumable supplementary materials which enhance the program are available. Contact project for detailed list. Suitable as basic or supplemental program.

This program is also available in a D'Nealian version, $16 extra.

REQUIREMENTS The program can be implemented in a typical classroom using regular teachers. A one-day training session is necessary for adoption. The entire KITE program may be implemented. The reading or math components may be implemented separately.

SERVICES Awareness materials, grant writing packet, correlation to your state requirements, and awareness video tapes are available at no cost - contact your State Facilitator or KITE Project. A three-hour training tape (VCR) is also available for rent or purchase. Visitors are welcome by appointment at project site and additional demonstration sites in home state and out of state. Project staff is available to attend out-of-state awareness meetings (costs to be negotiated). Training is conducted at project site (adopters pay only their own costs). Implementation and follow-up services are available to adopters (costs to be negotiated). A two-day Certified Trainer workshop is held in the San Francisco area end of June.

CONTACT *Jeanne Stout Burke, Director; KITE; Sunshine Gardens School, 1200 Miller Avenue, South San Francisco, CA 94080, 415/588-8082.*



CERTIFIED TRAINER: CHERYL S. SMITH

Route 14, Box 592-A
Jonesborough, TN. 37659

PHONE: (615) 753-8005 (home)
(615) 753-4511 (work)

P.S. MET

Problem Solving with Manipulatives for Elementary Teachers

P.S. MET

PROBLEM SOLVING WITH MANIPULATIVES FOR ELEMENTARY TEACHERS

Developed by:

Sheila Vice
K-12 Mathematics Consultant
Kentucky Department of Education
1828 Capital Plaza Tower
Frankfort, KY 40601

and

Judy Tabor
Mathematics Teacher
Franklin County High School
1100 E. Main Street
Frankfort, KY 40601
(formerly Mathematics Consultant, Ky. Dept. of Ed.)

1989

Trainers:
Nancy Allen, Johanna Strange, Judy Tabor, Sheila Vice

Teams from 40 schools in Kentucky have been trained as trainers. For information, call Sheila Vice at (502) 564-2672.

NOTES FOR USING THIS PROGRAM

P.S.MET: PROBLEM SOLVING WITH MANIPULATIVES FOR ELEMENTARY TEACHERS

This program consists of activities related to the following subsections of the NCTM Curriculum and Evaluation Standards:

Numeration and Computation

Geometry and Measurement

Fractions and Decimals

Probability and Statistics

Patterns, Relationships and Algebra

This manipulative program is intended for teacher training, with the activities being performed by teachers as they will in turn expect students to perform. The general format of each section of the program includes the general teacher objective, the general expected student outcome, the title of the activity, materials needed, and the procedure/s for accomplishing the activity. In at least one activity in each section, reference in the title is made to one of the strands woven throughout the NCTM Standards--Communication as Mathematics, Mathematical Connections, Reasoning as Mathematics, and Technology. All activities are expected to be performed in a cooperative learning group of at least 2 participants/students.

The procedures are written in three types of forms:

Plain text gives directions for doing the activity directly to the participants/students;
Italics text gives suggestions of questions for trainer/teacher to ask participants/students to point out important ideas or to solicit additional solutions;
(Text in parentheses) gives directions or ideas to the trainer/teacher.

No grade levels are designated for activities; they can be adapted for many grades.

It is recommended that teachers observe one another teaching with manipulatives so that they may better internalize the concepts and strategies for teaching the lessons. An observation checklist is provided on the back of this page which outlines the key components from the program. After observations, teachers should discuss and share their ideas, so as to make changes or improvements in the lessons.

P.S. MET

Observation Checklist

Observer:_____ Date:_____

During your observation, the teacher:

_____ 1. developed a concept using manipulatives

_____

_____ 2. allowed students to experiment, discover, or explore mathematical concepts

_____

_____ 3. allowed students to work cooperatively in small groups or pairs

_____

_____ 4. demonstrated a problem-solving strategy (modeling, drawing a diagram, making a table or graph, writing a number sentence, guessing and checking, restating, working backwards, finding a pattern or simplifying the problem)

_____

_____ 5. posed a real-life problem and allowed students to solve

_____

_____ 6. encouraged students to estimate answers before computing

_____

_____ 7. allowed students to communicate mathematics (let students justify their answers and explain methods of solution, both orally and written)

_____

_____ 8. made a connection between mathematical topics or between math and other subjects

_____

_____ 9. involved students in a reasoning activity

_____

_____ 10. involved students in an activity from the last workshop or from same topic

_____

_____ 11. allowed students to use calculators or computers to facilitate problem solving

__If so, which?_____

_____ 12. allowed students to generate their own problems or extend problems

_____

WHAT IS PROJECT CLIMB?

Project CLIMB is a teacher developed program focused on integrating reading, writing and mathematics across the curriculum. It is a coordinated non-fragmented curriculum overlay that:

- Identifies reading, mathematics, and study skills for grades K-12 in the form of skills arrays.
- Provides a process for applying and synthesizing these skills in a meaningful way for the students involved.
- Provides an evaluation system in the form of survey diagnostic tests and criterion referenced tests for each skill identified.
- Provides a simplified record keeping system that monitors continuous student progress grades K-12.
- Provides for alternative teaching strategies within the classroom using a diagnostic-prescriptive approach.
- Provides strategies in content reading and study skills for all disciplines.
- Provides a writing component linking reading/writing/thinking skills to all content areas.
- Provides a design for coordination of classroom instruction with supportive services - Chapter 1, special education, remediation specialists, etc., to address those skills.

Our goal is to improve student performance in reading/writing and mathematics and to coordinate instructional services in the delivery of skills instruction. We offer a well planned and carefully structured teacher training segment for schools adopting the program. Our materials (skills arrays, criterion referenced tests, diagnostic survey tests, record keeping, and bank of activities) are not available without our teacher training.

The CLIMB program is flexible and is used with any basal series, whole language and/or literature based approach. For each adopting school we correlate CLIMB to the materials and instructional approaches, state and district objectives so each school has a coordinated system to meet their particular needs.

Our instructional approach in reading is a blend of diagnosis and whole language so that skills are not taught in isolation. We connect the reading process to writing. In math, we emphasize the use of concretes, moving gradually to the symbolic, and stress problem solving.

Materials development is part of our teacher training component. Teachers are trained to use existing materials or to develop their own to match the CLIMB skills arrays. They create small groups for instruction. Thus the materials are directed at the level of each small group. Teachers are trained to share their materials through the use of CLIMB-developed Instructional Materials Catalogs. During training teachers receive a bank of activities and strategies to use with their instructional materials.

The CLIMB management system integrates and coordinates personnel, materials and services within the classroom and the school. The project meets the needs for total school improvement and specifically basic and advanced skills improvement on a school-wide basis.

Project CLIMB can be an easily adapted and cost-effective way to meet the needs of schools because it does not impose an add-on curriculum to a school. It provides a structure and a continuum to a curriculum and materials that a school is currently using. In this way, teachers can be efficient managers of instructional planning.

Project CLIMB has been adopted in over 3000 schools. Training has been conducted for regular classroom instruction, special education, Chapter 1, ESL, migrant programs, adult education and compensatory education programs for public and non-public schools. CLIMB has been identified in the research as an effective program for students at risk of school failure. The program can be adopted in either reading/writing and/or mathematics at any or all grade levels.

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Project CLIMB Price List

READING OR MATHEMATICS

Curriculum Package per classroom teacher each discipline $160

Includes: Skills Array
Criterion Referenced Tests (CRT's)
(2 grade levels)
25 Record Keeping Folders
2 Class Profile Sheets
Training Materials (including resource folders (20) w/labels)

COSTS/INDIVIDUAL ITEMS EACH DISCIPLINE

Skills Array ..... Math $25 Reading $20
Criterion Referenced Tests (CRT's) $40/level
Student Record Keeping Folder $1.25/each
Class Profile Sheet $1.25/each
Diagnostic Tests $25/level
Complete Set of CRT's K-9 ..... $375
Training Materials ..... $35 & up
(including resource folders (20) w/labels)
Resource folders (20) w/labels $15

WRITING

Read/Write training materials per participant .. $35
Bank of Read/Write activities per school ... $100

Other Expenses: Travel and expenses for CLIMB consultant for 2 days training and follow-up.
Please contact the CLIMB office for materials and training costs based on your particular school needs and budget.

Prices effective July 1, 1990
Additional charge for shipping and handling.

lrs 6/90

PROJECT STAMM 1005 Wadsworth Blvd. Lakewood, CO 80215 (303)231-2381
Sherry Stumbaugh, Director

I. Introduction

STAMM presents an elementary mathematics program delivered through a variety of concrete manipulatives, practice, problem solving and enrichment strategies. STAMM provides students with varied opportunties to develop underlying concepts before skills are practiced, and can be used in a variety of teaching styles (large group, cooperative grouping, departmentalization, individualized or labs) with any basal textbook.

This program is delivered through a management system which is organized around carefully designed learner outcomes. Student growth is monitored through pre and post assessment strategies. Specifically, the program is delivered through the following STAMM materials:

- Teacher Manual (TM) - a resource book of activity oriented ideas to assist the teacher in delivering the learner outcomes.
- Student Workbook - a set of student materials from which a teacher selects activities as needed to enhance development and practice of the learner outcomes by the students after they have received initial instruction.
- Student Test Booklet - criterion referenced assessment to provide information about the student's progress on the learner outcomes utilizing alternative testing strategies.

Similiar products have been developed having the basic STAMM components for middle and secondary students. Program and materials can service regular as well as Chapter I, special education, and gifted/talented students.

II. Statement of Goals and Objectives for Using STAMM

Goals:
A teacher, school or district is seeking materials and means to further align math instruction with the National Council of Teachers of Mathematics (NCTM) "Standards" in order to provide teachers with a) increased math knowledge, b) upgraded teaching skills, c) new math curriculum, d) specific learner outcomes, and/or e) additional approaches for math instruction.

Objectives:
- a carefully devised approach to assure instructional delivery of a broad mathematics curriculum including core competencies and key skills;
- a mathematics program that will improve student learning as proven by increased standardized test scores;
- a systematic format that will enhance articulation of student progress in all ability and grade levels;
- a mathematics program aligned with philosophy, instruction, methodology and content proposed by the NCTM in its 1989 publication "Standards for School Mathematics";
- a means to increase awareness and understanding by staff about what is taught in math at varying grade levels;
- a way to inservice staff on teaching math since many of them do not have a strong background in mathematics;
- a mathematics program providing teachers with means to increase concrete manipulative usage and problem solving strategies;
- a well coordinated mathematics curriculum fitting with many textbook series.

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III. Description of Planned Activities

- When the decision is made to implement STAMM, the adopters pledge an effort to teach and monitor the STAMM learner outcomes.

- All teachers who will be implementing STAMM plus their immediate supervisor attend a two-day training workshop; this workshop enables the staff to maximize the effectiveness of the program materials and includes 'nuts and bolts' processes.

- Continuing weekly or monthly meetings are recommended for local staff members who are using STAMM to discuss progress and address questions.

- An on-site trainer is to be identified by the school for conducting training of new staff in subsequent years.

IV. Suggested Evaluation Plans

- Student proficiency on learner outcomes to be analyzed to determine the flow of students through the STAMM program.

- Standardized tests to be reviewed for the year prior to implementation of the STAMM program to establish a baseline.

- Standardized test data to be collected each succeeding year to assess student progress; data will be collected for two or three years from the training date to examine long-term impact on pupil achievement.

V. Projected Budget

- Materials and Supplies - beginning expenses average approximately $6.00 per student. Continuation costs will be approximately $4.00 per student per year if the student workbook is used. Adopters may wish to allocate additional funds for manipulatives as needed at their particular site. Note: per the guidelines of U. S. Department of Education, teacher and student materials are sold only in conjunction with staff attending a two-day training workshop since guided usage of the materials is as significant in improving learning as the materials themselves.

- Purchased Services - Project STAMM personnel are available for on-site training and follow-up; expenses for the adopter will include actual expenses for travel, lodging, meals plus a training fee. Every effort is made to minimize these expenses.

- Funds for purchase of materials and services can often be obtained through Chapter I, Eisenhower Math-Science or block grant sources.

VI. Preview Materials Available without Charge

- Fifteen (15) minute videotape overviews program and program materials

- Listing of Learner Outcomes for each grade

- Listing of Learner Outcomes across grades by math topic

VII. Conclusion

STAMM has been recognized by the U. S. Department of Education as an exemplary mathematics program and is part of National Diffusion Network of OERI (Office of Education Research and Improvement). STAMM was developed by a local school district in Colorado and is shared with other schools per the guidelines of a non-profit agency.

Per federal guidelines, please note, "The contents of this were reproduced or are being distributed under a grant from the U.S. Department of Education. However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government."

SUCCESS UNDERSTANDING MATHEMATICS (SUM)

The SUM program began in 1972 when math teachers in Des Moines, Iowa began developing books containing strategies used in the Title I (now Chapter I) supplementary program. They based their methods on Piaget's research on the way children learn mathematics.

These strategy books were used to train new teachers, to keep the program consistent from school to school, and to provide a way of sharing the ideas that worked, says Kathleen Bullington, director of the SUM program. "But by 1980, we had statistics on the progress our students were making and results were good...so good that we knew we had found methods that could be used by any teacher in any classroom," says Bullington. So they sent the data to the Joint Dissemination Review Panel. SUM was declared exemplary in 1981, and in 1985 was accepted by the NDN for dissemination.

Research supporting the SUM approach is cited in the U.S. Department of Education booklet, What Works. It says (1) young children learn mathematics more effectively when they use physical objects in their lessons, (2) physical objects are important because they help the student visualize abstract concepts, (3) the type of object is not important - students do as well with inexpensive homemade materials as with costly commercial versions, and (4) student achievement rises when teachers ask questions that require students to apply, analyze, synthesize, and evaluate information - not simply recall facts.

During SUM program training, teachers learn how to structure math lessons using concrete objects. They learn why children need concrete objects, what objects to use, when to use them, and which children benefit most from manipulating objects.

The trainers use roleplaying to teach instructional methods. The teachers become the students as SUM trainers give them kits of objects and ask questions. The teachers answer the questions by moving the objects. Then the trainers show them how to record the process on paper. To practice, the teachers pair up and take turns questioning each other. Initial training is usually scheduled for 2 days, but can be done in 1 day if necessary, with additional material taught at the follow-up sessions.

Teachers learn techniques for teaching numeration, addition/subtraction, multiplication/division, fractions, problem solving, and decimals, and how to prevent error patterns which sometimes develop when children memorize rules for math processes they don't understand. SUM strategy books, NDEO FAAKs, and testing and record keeping materials are provided to adopting schools.

Schools in Nebraska, Oregon, Alaska, Iowa, Indiana, New Mexico, Alabama, Kentucky, Illinois, Louisiana, Idaho, Kansas, and Florida have adopted the SUM program. Teachers in these schools are enthusiastic about the program. They have written: "Thank you for coming. People like you make me feel good about my profession"; "Math is something I've never understood. Thank you for this opportunity to learn a technique with promise"; and "You're opening up the world of mathematics to children."

For more information on SUM, contact Barbie Haynes, National Diffusion Network Coordinator, Kentucky Department of Education, Frankfort, Kentucky 40601, (502) 564-6720

SUM PROGRAM

SUCCESS UNDERSTANDING MATHEMATICS (SUM)
MAKING MATH MEANINGFUL AND MOTIVATIONAL FOR CHILDREN

GOAL

To increase the level of mathematics achievement of children in grades 2-6.

PHILOSOPHY

Philosophy of the program is based on Piaget's research which showed that elementary school children can develop logical thinking by manipulating concrete materials.

Students' achievement in mathematics is improved when:

- Teacher expectations are high.
- Teaching techniques help students to understand concepts.
- Understanding precedes drill.
- Instruction is planned to meet students' needs.
- Instruction is based on sequential learning objectives.
- Parent involvement and interest are high.

SUM INCLUDES

- Emphasis on developing student understanding of concepts.
- Guided group instruction with interaction.
- Mathematical algorithms developed by student use of concrete objects.
- Teaching objectives for mathematical skills including problem solving.
- Criterion referenced tests for objectives.
- Record keeping.
- Parent involvement.
- On-going inservice program.

MATERIALS

After training a teacher package can be purchased for $25.00; it includes:

- 1 Strategies Book -- Computation Skills
- 1 Strategies Book -- Problem Solving Skills
- 1 Student Record Folder
- 1 Set Classroom Record Sheets
- 1 Set Folder Tests
- 1 Set Blackline Masters

TEACHER'S INSTRUCTIONS

"Phillis Wheatley"
Rhymes and Reasons, pages 77-87.

WORD MASTERY LIST

*colonies	repeal	*enthusiasm
*rebel	*celebration	solemn
colonists	porridge	monarch
protest	*hesitated	

TREASURE HUNT

SECTION I. Stop at the end of page 81. Discuss the answers to the questions below with your partner. Then write down your answers while your partner answers separately.

1. Describe Phillis Wheatley. Phillis is the Wheatleys' slave. She is intelligent and modest about her ability to write.

2. What is special about Phillis' situation? Phillis is a slave, but is treated kindly.

3. What is the setting of the story? The story takes place in Boston in the late 1760's.

4. Why did Phillis write the poem? Phillis wrote the poem to thank King George for repealing the Stamp Act.

5. Why did Phillis leave the poem by her bedside? Phillis left the poem by her bedside because she didn't believe the King would read a poem written by a slave.

MAKE A PREDICTION: How will the story end? (Discuss students' predictions during your story discussion. Emphasize the importance of having support for predictions.)

SECTION II. Finish reading this story with your partner. Discuss the answers to the following questions with your partner. Then write the answers while your partner answers separately.

1. Who first discovered the poem? Mrs. Wheatley first discovered the poem.

2. Why did Mr. Wheatley doubt that Phillis wrote the poem? It was very well-written, and he hadn't known Phillis could write that well.

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3. How is Phillis different from most slaves of this time? She can read and write very well.

4. Do you think that the men at the council chamber liked the poem? Why or why not? Yes, they sent the poem to King George to thank him for repealing the Stamp Act and told Phillis she had a gift.

5. Why were Phillis' abilities so surprising to the men at the council chamber? The men weren't used to intelligent slaves.

STORY RETELL FORM

Describe Phillis Wheatley's character. Give examples to support your opinion. Phillis Wheatley was intelligent because she wrote a poem and could speak Latin. She was modest because he wouldn't take credit for her accomplishment.

What was the problem? After King George had repealed the Stamp Act, Phillis was so happy that she wrote a poem to the king. The poem described how glad and thankful the colonists were. However, Phillis thought the poem was foolish, so she did not send it. When Mr. Wheatley saw the poem, he was angry because he thought she had copied it. He did not believe that she had really written it, so he took her to the State House.

How was the problem solved? At the State House, Phillis was able to answer all the gentlemen's questions. They finally believed that she had written the poem, so they sent it to the king.

STORY RELATED WRITING

Phillis Wheatley was so happy that she wrote a poem for the king. Has anything ever made you feel really happy? Write a poem describing this experience.

Steps in writing

1) Talk with your partner about what you plan to write. Discuss each other's ideas.

2) Write your paragraph.

3) Read your writing to your partner. Ask your partner what he or she likes. Ask your partner if he or she has any questions.

4) Make any improvements to your story that will make it better. Try to answer the questions your partner may have asked.

Readings Supporting Primary School Kowledge Base

Elkind, David, Miseducation: Preschoolers at Risk, Knopf, New York, NY, 1987.

Elkind, David, The Hurried Child, Addison-Wesley, Publ., Inc., Reading, Mass., 1981, 1988, 1990.

Englemann, Siegfried, Preventing Failure in the Primary Grades, Science Research Associates, Chicago, Il., 1985.

Gardner, Howard, Frames of Mind: The Theory of Multiple Intelligences, Basic Books, Inc., New York, NY, 1985.

Hart, Leslie, Human Brain and Human Learning, Longman, Inc., New York, NY, 1983.

Katz, Lillian, The Case for Mixed-Age Grouping in Early Education, National Association for Education of Young Children, Washington, D.C., 1990.

Oakes, Jeannie, Keeping Track: How Schools Structure Inequality, Yale University Press, New Haven and London, 1985.

PRIMARY SCHOOL INSTITUTE
OCTOBER 1990
EXECUTIVE EAST & WEST
LOUISVILLE, KENTUCKY

STRAND I "GETTING STARTED"

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STRAND II " ORGANIZATIONAL ISSUES"

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STRAND III "CURRICULUM"

PRIMARY PRESENTER

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Ms. Kathy Calwell
Key School
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Indianapolis, Indiana 46201
317/226-4297

STRAND IV "INSTRUCTION"

PRIMARY PRESENTER

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Burlington, Vermont 05401
802/656-3356

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Carlisle, Kentucky 40311
606/289-2284

Ms. Elizabeth Rightmyer
The Chance School
4200 Lime Kiln Lane
Louisville, Kentucky 40222
502/425-6904

STRAND V "MANAGING INSTRUCTION IN THE PRIMARY SCHOOL"

PANEL FACILITATORS

Dr. Phyllis Oakes
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Morehead, Kentucky 40351-1689
606/783-2834

Dr. Judy Harris
Thomas Moore College
333 Thomas Moore Parkway
Crestview Hills, Kentucky 41017
606/341-5800

PANEL MEMBERS

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614/487-5145

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1401 East 10th Street
Indianapolis, Indiana 46201
317/226-4297

Ms. Kathy Kopt
Chance School
4200 Lime Kiln Lane
Louisville, Kentucky 40222
502/425-6904

Ms. Kathy Marshall
Wheeler Elementary
5410 Cynthia Drive
Fern Creek, Kentucky 40291
502/473-8349

STRAND VI " TEACHER TRAINING ISSUES"

PRIMARY PRESENTER

Dr. Ann Mitchell
Bank Street College
610 West 112 Street
New York, New York 10025
212/222-6700 Ext. 313

SUPPORTING PRESENTER

Dr. Anne Brautigam
346 Glendover Road
Lexington, Kentucky 40503
606/278-2496

PRIMARY PROGRAM RESOURCES

SCHOOL	BANK STREET	BETSY LAYNE ELEMENTARY	THE CHANCE SCHOOL
CONTACT	Ms. Nona Weeks Dean of Children's Programs	Mr. Winford Allen	Ms. Elizabeth Rightmyer
PHONE	212/2. [illegible]00	502/473-8290	502/425-6904
ADDRESS	610 West 112 Street New York, NY 10025	9831 East Avenue Valley Station, KY 40272	4200 Lime Kiln Lane Louisville, KY 40222
LENGTH OF OPERATION	75 years	pilot year	12 years
UNGRADED OR MULTIAGE	family groupings 6 mos.-3 yrs. overlapping mixed age grouping 3-13 yrs.	piloting non-graded 1-3	ungraded 1-3 self contained kindergarten
GROUPINGS	no testing for ability grouping	P.M. - multiage teaming ages 6-8 Sci./Soc. St./Health	mixed age groups that change depending on the task
SPECIAL POPULATIONS	mainstreamed	Special Teacher teams with Primary Teachers for Sci./Soc. St./Health	
CURRICULUM	Teacher developed curriculum integrates all content areas via studies of social phenomena relative to young children	Success Reading Box It/Bag It Math SUM All staff is teamed	Whole Language Success Model Miquon Math Weekly Field Trips Social Studies and Science Projects
EVALUATION	Wide variety ranges from standardized tests, Reading Skill Inventories, anecdotal records, observations	Comparison of year to year student profiles prepared by Jefferson County	CTBS Student portfolio Teachers write observation diaries
PARENT COMMUNICATION AND INVOLVEMENT	Minimum of two Parent-Teacher Conferences review children's academic and creative works Narrative reporting	Jefferson County report card Informal communication	Three Parent-Teacher Conferences each year Parents are active in all aspects of school programs

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PRIMARY PROGRAM RESOURCES

SCHOOL	DIXIE ELEMENTARY	ESSEX	KEY SCHOOL
CONTACT	Ms. Linda Keller	Ms. Robbe Brooks	Ms. Patricia Bolanos
PHONE	606/299-9211	802/878-2584	317/226-4297
ADDRESS	1940 Eastwood Parkway Lexington, KY 40505	Browns River Road Essex, VT 05452	1401 East Tenth Indianapolis, IN 46201
LENGTH OF OPERATION	Non-graded 25 years Other components are developing	Ethics Design for Learning for 20 years Multiage 10 years	4 years
UNGRADED OR MULTIAGE	Non-graded K-5 Multiage grouping	K-2 building 24 classrooms 7 multiage rooms	Multiage
GROUPINGS	Primary units Intermediate Units Collaborative/Team Model	Heterogeneous Family groupings Students may remain with the same teacher for up to 3 years.	Heterogeneous Primary classes Intermediate classes
SPECIAL POPULATIONS	All support services are delivered in the classroom environment. Individual student assessment & placement at appropriate skill levels.	Working toward collaborative services model. (Now a combination of pullout and collaboration)	Students are intermingled with heterogeneous classes.
CURRICULUM	Adopted Fayette County curriculum, Project SHARE Alternatives dependent upon the needs of the children.	Developmental curriculum to address the whole child. Choices of material/activities dependent upon child's needs. Teachers develop curriculum.	Theme based curriculum. Interdisciplinary teaching. Gardner's Theory of Multiple Intelligence.
EVALUATION	Fayette County reporting system Introducing parents to mastery through IEP's for Language Arts	Teachers compile student work in Language Arts folders, math folders, writing samples, anecdotal records and student observations.	Special report card. No letter grades. Student projects based on curriculum themes. Student video portfolio.
PARENT COMMUNICATION AND INVOLVEMENT	Parent-Teacher Conferences every six weeks. Encourage parents to observe classes. PTA coordinates volunteer program for all parents.	4 progress reports yearly incorporate teacher narratives 2 Parent-Teacher Conferences Newsletters Parent/School Partnership	Required attendance at 3 of 4 Parent-Teacher Conferences. Involvement in Committee Resource Committee.

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PRIMARY PROGRAM RESOURCES

SCHOOL	SAFFELL STREET ELEMENTARY	STANTON ELEMENTARY	WHEELER ELEMENTARY
CONTACT	Mr. Max Workman	Ms. Faye King	Ms. Charlene Bush
PHONE	502/839-7368	606/663-4334	502/473-8349
ADDRESS	210 Saffell Street Lawrenceburg, KY 40342	P.O. Box 367 Stanton, KY 40380	5410 Cynthia Drive Louisville, KY 40291
LENGTH OF OPERATION	Planning and Developing Stages - 2 years	Teachers have been teaming for several years. First year for multiage grouping.	3 years
UNGRADED OR MULTIAGE	2nd year of development Age Appropriate Learning Philosophy now in place	Ungraded - multiage	Multiage non-graded 1-5
GROUPINGS	None	Modified Joplin Plan for Reading Team Teaching Cooperative Learning	Heterogeneous No tracking
SPECIAL POPULATIONS	Collaboratively serve special needs students	Equity for disadvantaged students. Consideration for groupings for cooperative learning strategies approach.	All children receive services in the regular classroom.
CURRICULUM	High Scope Success TLC Writing to Read	Process approach for Science and just beginning in Math and Reading. Reading-Whole language experience plus Joplin.	Inter-disciplinary multiage teaching team with curricular alignment focusing on continuous progress.
EVALUATION	Working toward narrative reporting Parent conferences	Developing portfolio assessment and a more specifically designed reporting system.	Non-graded pilot report card with a focus on new modes of assessment.
PARENT COMMUNICATION AND INVOLVEMENT	Examples: parent volunteers, report cards, conferences	Parent Volunteer Program Home Visitation Program Variety of efforts to keep parents informed.	Participatory management system.

PRIMARY PROGRAM RESOURCES

SCHOOL	WYCLIFFE
CONTACT	Dr. Steven DeLapp
PHONE	614/487-5145
ADDRESS	2405 Wycliff Road Columbus, OH 43221
LENGTH OF OPERATION	19 years
UNGRADED OR MULTIAGE	Combination classes K-1 2-3 4-5 1-2 3-4
GROUPINGS	Family groupings
SPECIAL POPULATIONS	Mixture of resource classes (pullout) and individual and small group tutoring sessions.
CURRICULUM	Literature-Based-Whole Language. Theme Teaching. Hands-On Activities utilizing appropriate experiences and materials for young children.
EVALUATION	Student skills checklists reflect performance and effort. Narrative included.
PARENT COMMUNICATION AND INVOLVEMENT	Parents are an integral part of the school. Parents as volunteers. Active P.T.O.

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